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BRITISH MEDICAL JOURNAL

LONDON SATURDAY SEPTEMBER 5 1942

AN ALPHABET OF BREAST-FEEDING

BY

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In this third year of war the saving of food is an urgent duty, and the waste of food is strongly and rightly denounced. It is timely, therefore, to draw attention to the serious waste of breast milk caused by the prevalent neglect or mismanagement of breast-feeding. Breast milk is the ideal and complete food of the infant for the first six months of life and can continue to be its principal article of diet for the remainder of the first year. The gross quantity of breast milk consumed by a baby in six months is about 210 pints (on the basis of 3/4 pint daily for the first month and 1¼ pints daily for the next five months). Deducting the 41,459 infant deaths in Great Britain during 1941, there were 635,062 survivors, and their requirements in breast milk for the first six months were 16½ million gallons. It is a reasonable estimate, and probably an under-estimate, that one-third of this quantity, 5½ million gallons, of essential ideal infant food was lost through unnecessary weaning of babies.

Of babies weaned early the great majority are weaned in the first month of life. In my ward at the Edinburgh Children's Hospital 62% of a consecutive series of 100 babies had been weaned by the end of the first month, and by the end of the second month the figure was 80%. It will be agreed that this early weaning of babies is due to the failure of mothers, nurses, and doctors to overcome the numerous difficulties in breast-feeding that occur in the first weeks of lactation. For a generation the pre-eminent value of breast milk has been taught and accepted ; but this has had little effect in practice, because, on the occurrence of difficulties, weaning is advised for reasons that are far too often trivial and unnecessary. The results are not only a colossal waste of the best infant food available but also a waste of money, time, and trouble, and a loss of thousands of lives. This is bad enough in times of peace ; it is worse in time of war, when the substitute, cows' milk, is scarce and urgently needed for older children, and when the conservation of infant life and health is a paramount duty.

The following simple account of breast-feeding, its normal processes, and difficulties is offered to nurses and doctors in order to assist them in their duty of securing and maintaining breast-feeding in every possible case. It might be called the A B C of the subject—an alphabet of breast-feeding.

The Normal Processes of Breast-feeding

Breast-feeding is not so simple as it looks, and its inauguration is beset with many difficulties. But these difficulties can be understood and overcome only if the underlying facts of normal structure and function are known.

(*a*) *Breast-feeding.*—This is not a single process but a triple one, consisting of lactation, suckling, and digestion. For each there are anatomical and physiological data. In each the normal process may be at fault ; so that difficulties may arise in lactation, suckling, and digestion.

(*b*) *Lactation.*—This consists in the production of milk in the mammary glands and its temporary storage in the dilated great ducts behind the nipple. Efficient lactation depends, among other things, on the regular emptying of these ducts by suckling.

(*c*) *Breast Milk.*—For the first two or three days breast milk consists of scanty thick colostrum. About the third day there is a free flow of thin breast milk, accompanied by engorgement of the breast. At the end of the first week the daily output of milk, when mother and baby are healthy, is about 15 oz. ; at one month, 20 oz. ; at three months, 25 oz. ; and at six months, 30 oz. These daily quantities can be easily checked by test-feeding.

(*d*) *Suckling.*—This is a co-operative act of mother and baby. Its success depends upon many things: upon the practical skill of mother and baby, both of whom may require training by the nurse in the first week ; upon the healthy condition and shape of the nipple ; upon the complete emptying of the milk ducts at each suckling ; upon the complete eructation of swallowed air, a process which again requires deliberate patient training in the first days.

(*e*) *Digestion.*—Daily inspection of the tongue is important. The chemical processes of early digestion are less important than the mechanical. Early vomiting is often due to maladjustment of the pyloric sphincter with the contraction of the body of the stomach, or to retained air, and is rarely due to organic pyloric obstruction. The early peristaltic action of the intestines is vigorous and produces three to four stools a day. The colour of the stools changes from dark green to bright yellow about the fourth day, but a light green stool at this stage may be physiological or the result of milk excess.

Difficulties of Breast-feeding

The complete list of difficulties is a long one. They may arise from disturbance or fault in lactation, suckling, or digestion ; from general illness in mother or baby ; from psychological faults in mother and baby. Some of these difficulties are irremediable and call for weaning ; but most can be overcome easily, or by patience and perseverance. In the list that follows the unmanageable difficulties are marked −; the manageable are marked +; and those that are doubtful −+. The great majority of all these difficulties occur or become obvious towards the end of the first week. In this list there is a broad grouping into maternal and baby difficulties ; nearly all the unmanageable difficulties (and they are few) occur in the maternal group. A group with an asterisk (*) indicates that unnecessary weaning is common in this group.

Maternal Difficulties

General

*(*f*) *Psychological* (+).—Maternal unwillingness, fear, anxiety, and ignorance form a group in which the difficulty is in an attitude of mind. At the present time it is a large

group, and is responsible for many cases of early and unnecessary weaning. It is kept large by the connivance and consent of nurses and doctors; and it could be greatly reduced at once by our own assurance and by reassurance and persuasion of the mother.

(*g*) *General Physical Illness* (− +).—This is a miscellaneous group that includes the serious complications of labour, chronic heart disease, pyelitis, anaemia, malnutrition, and acute illness. The deciding factor is the condition of the mother and the effect of lactation on her general health. In many cases weaning is called for; in many, lactation can proceed without injury to the mother and with advantage to the baby. In only one case is the bar to nursing absolute; and that is maternal tuberculosis, in which lactation and suckling are dangerous to mother and baby alike.

Lactation

(*h*) *Excessive Engorgement of the Breasts* (+).—This is a common event in the middle of the first week, and may cause great local discomfort and some general upset; but it is transient and is easily reduced by gentle manual expression of milk, compresses, and an aperient. It is often a herald of abundant lactation. True mastitis with abscess formation generally occurs later, and calls for suspension of suckling from the affected breast for two or three weeks. When healing is complete, lactation can be re-established.

(*i*) *Nipple Conditions.*—(1) *Fissure of the Nipple* (+) is caused by lack of ante-natal care, by excessive suckling in the early days of lactation, by breast engorgement, etc. It is treated by withdrawal of suckling for from four to seven days, by manual expression of milk, and by frequent careful dressing of the lesion with soothing and/or astringent lotions. (2) *Retraction of the Nipples* (− +) is a more stubborn difficulty, and is treated by softening, mobilizing, and pulling out of the nipples, while lactation is maintained by manual expression. Treatment may fail.

*(*j*) *Scanty or Diminishing Lactation* (− +).—This can be guessed if the baby is hungry, is angry after suckling, and has small infrequent stools; it can be easily verified by test-feeding (a daily output of 10 oz. or less at the end of the first week means inadequate lactation). It is treated by suckling of both breasts for shorter periods and at shorter intervals, by manual expression of milk after suckling, by stimulation and mobilization of the breasts, by improving maternal digestion and nutrition, and by giving the baby *small* supplementary feeds which prevent loss of weight but maintain a state of slight hunger and active suckling. These measures should be continued for two weeks, and should be controlled by occasional test-feeding. They are generally successful in the early cases; but less often if the decline shows itself in later lactation.

(*k*) *Excessive Lactation* (+).—This is common and often enough produces digestive disturbance—gastric flatulence and vomiting, and large frequent stools. It is easily put right by reducing the number of feeds and the period of suckling.

Suckling

(*l*) *Mismanagement of Suckling* (+).—This is another important group. The inexperience and ignorance of the mother may result in clumsy handling of the newborn during suckling, allowing the baby to fall asleep at the breast, too prolonged suckling, and neglect of the important technique of breaking wind. All these faults can be easily removed by the patient expert instruction of the midwife.

Baby Difficulties

Suckling

(*m*) *Mismanagement by the Baby* (+).—The baby, like the mother, may be unwilling to play his part, or may be ignorant and inapt. And so we have the not uncommon early refusal to take the nipple; however stubborn the battle between nurse and baby, this refusal is always overcome by withholding food (not fluid). Also, the baby who falls asleep at the breast must be kept awake and goaded into action.

Digestion

(*n*) *The Mouth.*—Observation of the mouth ought to be part of the daily routine of the nurse. Thrush and other forms of stomatitis interfere with breast-feeding, and their early detection allows rapidly effective treatment. Deformities of the mouth may or may not impede suckling.

*(*o*) *Vomiting from Gastric Catarrh* (+).—This is due to infection of the stomach by the swallowing of infected material from the vagina, causing vomiting in the first two or three days after birth. It is treated by giving water only for 12 hours, with a little sodium bicarbonate or magnesia; and, if necessary, by washing out the stomach.

*(*p*) *Vomiting from Gastric Spasm and Flatulence* (+).—The two conditions need not be combined, but often are so. The vomiting is usually quiet, frequent, and small, but may be forcible. The baby is of the restless type, impatient in suckling and wriggling about afterwards. Treatment is entirely a nursing procedure. Suckling should be interrupted several times "to break wind"; on its completion a further patient effort should be made to produce eructation, and the baby soothed to sleep in the upright position before being laid down in his cot. In this type of disturbance the feeding interval should not exceed three hours, and with advantage may be less. These measures must be patient and thorough. Weaning in these cases is a bad blunder, and is often followed by persistent frequent vomiting for months.

*(*q*) *Vomiting from Excess of Milk* (+).—This may produce little disturbance beyond the spilling up of milk after suckling and the passage of frequent large stools; or it may give a similar clinical picture to that of section *p*. A few test feeds will disclose the condition. The remedy is simple and effective—to reduce the number of feeds and cut down the period of suckling to 15 or 10 minutes.

*(*r*) *Vomiting from Pyloric Obstruction* (+).—This is rare until the end of the second week. The clinical features of pyloric stenosis need not be described, nor its specific treatment. But *breast-feeding must be maintained*: its continuation will greatly favour the success of any treatment, medical or surgical. Weaning in cases of pyloric stenosis is still far too common, and the mistake is costly in lives. Indeed, the *rule is absolute for this and every other type of vomiting—never to wean on account of the baby.* The only exception is the excessively rare condition of anaphylactic vomiting; and its rarity serves only to prove and uphold the validity of the rule.

(*s*) *Intestinal Flatulence* (+).—If this causes colic it is easily recognized. But there is a silent type in which there is no colic; and the baby, fat and flourishing, is happy throughout the day but cries through wakeful hours at night and disturbs the peace of the household. Such babies put on weight rapidly and take large feeds quickly, which carry through a little swallowed air into the intestine. The condition may seem too trivial to require treatment, but in the long run nervous injury is done through loss of sleep. *Treatment:* Reduce intake by cutting down the period of suckling; slow down the rate of feeding; take special care in "breaking wind."

(*t*) *Frequent Large Greenish Stools* (+).—These are due to excess feeding, and the remedy is to reduce the number of feeds and the period of suckling. Small doses of paraffin emulsion will control any accompanying catarrh.

(*u*) *Constipation* (+).—One type of constipation fairly common in breast-fed babies in the early months is of special character and seldom described in books. There is no bowel movement for two or three days, and then the passage of a large soft healthy motion. General health and digestion are excellent. The cause is anal spasm (not fissure); and the remedy is to pass the little finger covered with vaseline into the anal canal and keep the sphincter dilated until the lower bowel and rectum contract and expel the stool. This is done twice daily until there is a spontaneous daily movement, and thereafter once daily for a week.

General Conditions

(*v*) *Prematurity* (+).—Breast-feeding is especially valuable in premature and feeble babies; but lactation is likely to be delayed, particularly if the stimulus of suckling is lacking. The special methods of feeding in prematurity cannot be detailed here; but lactation can be encouraged by manual expression of the breasts, and when small amounts are obtained these can be given to the baby. It is surprising how a small feeble baby of 4 lb. or less, and a fortnight old, will at once suck the nipple vigorously. Before breast milk is available a diluted

sweetened condensed milk is the best food; its low fat value is an advantage.

(*w*) *Gastro-enteritis* (+).—This dangerous condition is rare in breast-fed babies at home; but it is an ever-present risk in institutions. Vomiting and diarrhoea are accompanied by the essential symptoms of sudden anorexia, grave weakness, and dehydration. Inmmediate drastic treatment consists in total withdrawal of milk for one, two, or more days, the substitution of sweetened alkaline water, the giving three or four times daily of small doses of magnesia (a half to one teaspoonful), and parenteral salines. Meantime, lactation is maintained; but breast milk is resumed only when the colour and the strength of the baby have improved and there are signs of hunger and returning appetite. At first the breast milk, given by bottle, should be skimmed and diluted. In the acute stage a little sweetened tea twice daily is of value.

(*x*) *Failure to Gain Weight, and Poor Appetite* (+).—This condition is common at the end of the first week. Hunger and appetite can be restored quickly by the withdrawal of two or three breast-feeds and the substitution of sweetened water preceded by half-teaspoonful doses of magnesia. This can be repeated, if necessary, on a second day.

(*y*) *Febrile Illness in the First Month* (+).—This may be dehydration fever or any other sharp and transient febrile illness. The dietetic treatment is the withdrawal of breast-feeding for 12 to 24 hours and the substitution of abundant sweetened fluid; and here, again, the diuretic and diaphoretic action of tea infusions can be used with good effect. Breast-feeding can then be resumed.

(*z*) *Etcetera* (+).—Among all other pathological states in the baby during the period of breast-feeding—whether organic, structural, functional, or infective—while some may require a temporary withdrawal or modification of breast milk, there is not one which contraindicates breast-feeding.

Conclusion

This brief epitome of breast-feeding makes a crowded presentation of a large and complicated problem of dietetics. In other branches of dietetics the doctor and the nurse are not concerned with the production of the food, nor with its conveyance to the patient, but only with doling it out. But in breast-feeding we have to supervise all three operations; and before we can do this we must know and understand the processes that underlie lactation, suckling, and digestion. Only when we are instructed in this primary knowledge can we manage the normal dietetic problem of breast-feeding. And when we are so instructed we can then understand and deal successfully with the derangements that may upset these three physiological processes. It would not matter much if we had mastered the problem of the infant dietetics of cows' milk, complicated as it is with the far greater risk of infection. For in using cows' milk we face the double problem of malnutrition and infection, and our failure is shown in our high infant death rate.

Human milk is a food perfectly designed in its chemistry for the digestion and nutrition of the infant; and in the arrangements for its supply and consumption it is almost proof against infection; with these supreme advantages, it is also the cheapest of all human food, and the least troublesome to give.

But breast-feeding is not an automatic process; and its inauguration is attended by many checks and difficulties. Most of these difficulties can be overcome by knowledge and patient effort; and in this paper I have tried to set out in an orderly way the common difficulties and their simple remedies. The general neglect and mismanagement of breast-feeding has existed so long that its failure has become accepted as an inevitable effect of our civilized society. Actually it is one of the major problems that have to be faced in any serious effort to reduce our infant death rate. At the present time of dearth and war the mismanagement of breast-feeding, with its resulting waste of food wealth and life, is a matter of national concern. Every doctor and nurse who has the responsibility of advising and assisting mothers in breast-feeding ought to urge its continuation wherever possible and as long as possible, and give their best thought and effort to overcome any difficulties that may arise. They should pause and think more than twice before they recommend weaning in the first month or two of life.

ULCERO-MEMBRANOUS STOMATITIS

THREE ATYPICAL CASES

BY

Squadron Leader T. CRADOCK HENRY, M.R.C.S., L.D.S.

An investigation of 90 cases of ulcero-membranous stomatitis was recently undertaken, and of these, 87 were, on clinical and bacteriological evidence, classified as Vincent's disorder, while 3, which were atypical, form the basis of this paper.

Atypical Forms in the Literature

Reports in medical literature tend to show that atypical forms of ulcerative stomatitis are not uncommon; they occur sporadically, sometimes in association with other diseases and sometimes alone. In most cases the condition bears a certain superficial resemblance to Vincent's infection, but the clinical course is usually different, as the chief features emphasized are the degree of toxaemia, the prevalence of complications, and the mortality.

In a rather different category is a group of cases showing a variety of skin lesions with similar manifestations in the mouth. Of these the most important are pemphigus vulgaris, erythema multiforme, and dermatitis herpetiformis. Up to recent times these cases were diagnosed on the clinical findings, but few attempts seem to have been made to investigate the bacteriology or the blood picture. Pemphigus is pre-eminently the disease in which most difficulty is encountered in making a differential diagnosis, as the bullae may first appear either on the lips or in the mouth. Matis (1940), in describing 5 cases of pemphigus in which the lesions were entirely confined to the mouth, points out that the diagnosis rested on the identification of the typical bulla, which ruptured in a few hours, and states: "Following rupture, the flaccid pellicle sloughs off, leaving a superficial ulcer, which promptly develops a marked secondary inflammatory reaction." Erythema multiforme, which also produces a bullous lesion in the mouth, may be another source of difficulty, but again the diagnosis must rest on the discovery of the typical lesion.

In describing cases of atypical ulcerative stomatitis some authors have applied the term "streptococcal." Costello (1931) reports a number of cases of coincident sore throat and sore mouth in children. The lesion in the mouth was apparently pustular in type, not dissimilar to the bullae of pemphigus, and on rupture it left behind a superficial ulcer. Culture from the contents of these lesions gave an almost pure growth of haemolytic streptococci. Similarly, Mead (1932) gives an account of several cases of alleged streptococcal stomatitis in which the clinical features were mainly those of an acute marginal gingivitis. Culture from these cases usually resulted in a mixed growth of *Str. viridans* and *Staph. aureus*. In none of them, however, was the condition reminiscent of ulcero-membranous stomatitis in the full clinical sense of the term, nor were any of the patients seriously incapacitated by the disease.

A very different disorder was recently described by Walton and others (1941) in which the severity of the local condition, ulcero-membranous in type, was completely overshadowed by the alarming prostration and acute illness of the patient. The clinical features of the 3 cases bear such a striking resemblance to those of Walton that it is felt they may belong to the same group. They have in common the following characteristics: (1) The patients were acutely ill, with the manifestation locally of a wide-spread ulcerative stomatitis, associated with a conjunctivitis. (2) Swabs from the mouth failed to reveal the presence of Vincent's organisms in significant quantity, but streptococci were grown on culture. In Walton's cases the organism was believed to be a streptococcus of the *faecalis* type. (3) There was no response to sulphanilamide or sulphapyridine therapy, but the patients appeared to improve after blood transfusion.

The histories of the 3 atypical cases in the present series are as follows:

Case I

An A.C.2 aged 19 was admitted to hospital on May 17, 1940. Seven days previously he had had a slight sore throat, which had abated until, two days before admission, it had recrudesced simultaneously with the appearance of a sore mouth.

When first seen he was obviously very ill; cyanosis and dyspnoea were present, and the temperature was 104° F. and the pulse rate 140. He complained of dysphagia, and trismus had developed. The mucous membrane of the lips, gingiva, and soft palate was covered with a whitish-grey tenacious exudate, which on removal revealed shallow ulcers that bled freely. Haemorrhage, in fact, was observed from all the gingival margin, which was grossly hypertrophic. Smears taken from the mouth showed a few Vincent's organisms, together with large numbers of Gram-positive cocci. Aerobic culture gave an almost pure growth of haemolytic streptococci. The Wassermann reaction was negative. A general examination revealed no gross abnormality except the presence of moist rales at the left base. Sulphanilamide was given in preference

FIG. 1.—Case I. Acute phase 5 days after admission, showing bilateral conjunctivitis and blepharitis; oedema, bullae, and crusting of lips; and skin lesion. In the collar area the vesiculation, erythematous base, and central red spot can be seen.

to sulphapyridine, and the patient received an initial 24-hour dosage of 8 g.

The following day he seemed to have improved slightly and the temperature had fallen to 100° F. A skin lesion was now present; this took the form of a vesicular eruption on an erythematous base, and was first noticed on the left forearm and in the collar area. In addition conjunctivitis appeared, and a sticky discharge covered the lid margins (Fig. 1). On the fourth day a tentative diagnosis of pemphigus was made, and it was proposed to continue the sulphanilamide for a full course. The patient's general condition had begun to show a rapid deterioration; the temperature had risen again, he was taking little nourishment, and the prostration was alarming. It was therefore decided to try the effect of a blood transfusion, and 500 c.cm. of fresh citrated blood was administered. At this time the skin lesion had reached its maximum extent, and bullae were present on the arms, legs, and chest, with one on the glans penis. Smears from the mouth failed to reveal Vincent's organisms, and culture gave a heavy growth of haemolytic streptococci, both α and β. The white cell count was 13,000 per c.mm.

The following morning the patient was greatly improved, and during the next 4 days the temperature showed a gradual return to normal. On May 24 the chest was radiographed and evidence was found of a resolving bilateral bronchopneumonia. Blood culture from a specimen taken on May 19 was sterile, as was a culture from the exudate in one of the bullae. Further smears from the mouth again showed the presence of Gram-positive cocci, and culture gave an almost pure growth of haemolytic streptococci.

From about this time onwards the skin lesion started to fade and in the mouth the membrane began to separate, leaving behind a painful haemorrhagic surface. Oedema of the lips was still manifest as late as May 27 and the ulceration appeared tardy in healing. It was not until June 5 that the mouth lesion was completely resolved.

The patient was discharged from hospital on June 21, and so far as can be ascertained no other attacks have occurred.

Case II

A corporal aged 19 was admitted to hospital on Oct. 20, 1940, having been transferred from his local sick-quarters. For 5 days he had had a sore mouth, which had ulcerated 2 days

FIG. 2.—Case II. Acute phase 8 days after admission, showing ulceration and formation of small bullae on lips, and bilateral conjunctivitis, with some discharge present on lid margin.

before his admission. On the day previously his eyes became sore and he had awakened in the morning with the lids stuck together by discharge. He gave a previous history of having had a similar attack, in which a skin lesion had followed. This attack had never been satisfactorily diagnosed, but it was apparent that he had been gravely ill.

On examination the patient appeared restless and anxious; he was of a greyish pallor and slightly dyspnoeic, but no abnormal signs were present in the heart or lungs. The temperature was 100° F. and the pulse 120. A purulent conjunctivitis was evident, but no skin lesion except a residual staining from the previous attack. Inspection of the mouth showed an extensive ulceration, with a thick dirty white exudate, membranous in character. This covered the gingiva and the mucous membrane of the floor of the mouth, the cheeks, and palate. The lips were only slightly involved, but were oedematous. The white cell count was 12,000 per c.mm., with 74% polymorphs, and a swab from the mouth revealed a few Vincent's organisms, culture giving a mixed growth of haemolytic streptococci, pneumococci, and *M. catarrhalis*. The Wassermann reaction was negative.

The patient was placed on a full course of sulphanilamide, with an initial 24-hour dosage of 8 g. The drug was continued

for 6 days. He showed little improvement; the temperature was gradually rising and toxaemia was evident. A skin lesion appeared on the third day after admission, being first detected on the back in the scapular region and on both arms. The lesion was tender to pressure and similar in appearance to erythema multiforme.

On Oct. 24 the temperature reached 103.5° F., the pulse was thready, and the general condition appeared alarming. Prostration was evident; the patient was unable to take nourishment because of dysphagia, and oedema of the soft palate caused great distress. The skin lesion had extended, and was present on the buttocks, the lower limbs, and the dorsum of the penis. Two of the lesions had central vesiculation, which does not show in the photograph (Fig. 3). The white cell count was 7,800 per c.mm. A further swab from the mouth was identical with the first.

On the basis of the dramatic improvement that had taken place in Case I, a transfusion of 500 c.cm. of fresh citrated blood was given by slow drip. A rigor occurred shortly after the transfusion had begun, but despite this the procedure was completed.

On Oct. 25 the patient both looked and felt better: the temperature had fallen to 100° F. and the oedema of the soft palate was less. In the interim period mild non-specific

FIG. 3.—Case II. Eight days after admission. Old staining can be seen in large patches on the trunk, buttocks, and posterior aspect of upper arms. Recent purpuric lesions are mostly with limits of previous staining.

treatment had been given to the mouth, which had shown a gradual improvement; the membrane had separated in places, leaving behind a shallow ulcer. The skin lesions began to fade, and by Oct. 30 had disappeared completely. Smears from the mouth taken on Oct. 26 and 30 failed to show the presence of Vincent's organisms, and culture on both occasions gave an almost pure growth of haemolytic streptococci. Swabs from the eye did not reveal any organisms, and the blood culture was negative. Figs. 2 and 3 illustrate the condition as it appeared 8 days after admission.

The patient showed continued improvement, and the temperature remained normal after Oct. 27. The mouth, however, was slow to heal, and it was not until Nov. 5 that all ulceration had ceased. The patient was discharged on Nov. 12.

Case III

This patient, aged 18, was admitted to hospital on June 27, 1941, as a transfer from his local sick-quarters, 5 days after the onset of a severe stomatitis, which had been diagnosed as Vincent's infection.

On examination he presented a severe ulcero-membranous stomatitis involving the gingiva, the mucous membrane of the cheeks, the lips, and the soft palate. There was a single bulla on the tip of the tongue. The membrane was tenacious and not easily separated, and was grey in colour. His lips were swollen, trismus was present, and he complained of dysphagia. The breath was not fetid. The patient's general condition was fair, but he looked toxic. The temperature was 103° F., the pulse rate 120, and the respirations 36; moist sounds were evident at the left base. He had an angular conjunctivitis, with filmy strands over the cornea. Smears taken from the mouth failed to reveal Vincent's organisms, and culture gave an almost pure growth of *Str. viridans*. A smear of the conjunctival exudate revealed a few pus cells and an occasional diphtheroid, but no other organisms. At this time the white cell count was 13,000 per c.mm.

Treatment during the next two days was mainly expectant, non-specific measures being applied locally. The patient's general condition, however, deteriorated, and as the clinical signs and a radiograph of the chest were compatible with a basal pneumonia, a course of sulphapyridine was started on June 29—30 g. in all. On July 4 the drug was withheld, but as the temperature still remained over 100° F., and on the experience in the previous two cases, a small transfusion of 350 c.cm. of fresh citrated blood was given. There was an evident improvement in the patient's general condition following the transfusion, but it was not so dramatic as in the first two cases.

Up to this time the mouth condition had remained more or less static, but by July 7 the membrane was beginning to separate, leaving behind shallow ulcers, which healed with great rapidity.

Further smears from the mouth had been taken, but on no occasion were Vincent's organisms seen, and culture gave an almost pure growth of *Str. viridans*. No skin lesion developed at any time. By July 17 the patient had improved considerably and his condition had ceased to cause any grave concern. The blood picture showed haemoglobin 94%, red cells 5,340,000 per c.mm., and white cells 5,800 per c.mm. The mouth, however, was still unhealed, although the conjunctivitis had practically disappeared. Cervical adenitis, which had been a pronounced feature in this case, was now nearly absent.

The ulceration in the mouth was healed by July 22. The temperature had remained normal since July 9, and the patient was eventually discharged from hospital on Aug. 7.

Discussion

Three cases of an atypical ulcerative stomatitis have been described which at first sight bore a strong resemblance to Vincent's infection of an acute and widespread type. Clinically, this resemblance was only superficial; for in each case purulent conjunctivitis was present, foetor oris was never marked, and two cases developed skin lesions. Toxaemia with prostration was considerable in all three, and they showed in common a failure of response to sulphanilamide but marked improvement after blood transfusion. That the lesions were not classical Vincent's stomatitis is confirmed by the bacteriological findings.

The oral lesions could be described as ulcero-membranous in character in each case, and with one exception bullae were not found in the mouth. In addition the stomatitis preceded the appearance of the skin lesion by some days. These two facts seem to indicate that, whatever the nature of the stomatitis, it was not a manifestation of pemphigus or other primary dermatological condition.

As has been seen from the case reports, the organism mainly isolated in culture from the oral lesions of these patients was a streptococcus. In Cases I and II it was haemolytic, often in almost pure culture, and in Case III of a non-haemolytic type. Unfortunately, a detailed pathological investigation was not pursued, since facilities were not then available. However, the consistent isolation of these organisms in culture, together with the absence of other significant organisms, is of interest, and it would appear profitable to speculate on the relation of the streptococcus to the clinical picture presented.

It is known that toxic manifestations, with high temperature, toxaemic cutaneous eruptions, purulent conjunctivitis, and syndromes of a like nature may arise from a localized streptococcal infection, and although it is not suggested that in the first two cases the haemolytic streptococcus was the sole causal agent, it is believed that its presence had very considerable influence on the clinical course of the disease. In Case III the streptococcus found was of a non-haemolytic variety, and it is noteworthy that in this case generalized skin

lesions did not appear and, on the whole, toxic manifestations were less marked.

The fact that little response was obtained from the administration of sulphonamides in these cases would appear to absolve the streptococcus as the morbid factor, but cases of streptococcal infection are frequently seen in which no appreciable benefit has been obtained from this group of drugs, and, as has recently been shown, strains of haemolytic streptococci completely resistant to them do occur. Francis (1942) describes several cases of wound infection by a Group A Type 12 streptococcus resistant to sulphonamides, lack of inhibition of growth being demonstrable *in vitro*. This resistance is, however, not a specific type characteristic, and it seems likely that other types may, under suitable conditions, produce sulphonamide-resistant strains. However, quite apart from the possible presence of such a strain in these cases, the fact that a generalized toxaemic condition was well established lessened the clinical value of sulphonamide administration. Certainly, the problem becomes very different from one in which the streptococcus is proliferating in an open wound.

While it is realized that in these three cases there is not sufficient evidence to justify the conclusion that the streptococcus was the specific causative organism—in fact, a neurotropic virus might well be implicated—it is suggested that its presence influenced the clinical picture to a marked degree; and, although it is not possible to make a diagnosis until more is known of the condition, it is considered that this acute ulcerative stomatitis with its concomitant toxic syndrome constitutes a well-defined clinical entity.

Summary

In a series of 90 cases of ulcero-membranous stomatitis recently investigated 87 were classified as Vincent's disease. The remaining 3, which differed materially from the others, showed marked toxaemia and failed to respond to sulphanilamide and sulphapyridine; improvement, however, followed blood transfusion. In each of these 3 cases streptococci were isolated from the mouth lesions.

I wish to thank Wing Commander I. MacKay and Wing Commander K. Robson for their help and encouragement, and Squadron Leader R. Wynroe for the photography.

REFERENCES

Costello, J. P. (1931). *J. Mo. med. Ass.*, **28**, 605.
Francis, A. E. (1942). *Lancet*, **1**, 408.
Matis, E. I. (1940). *Ann. Otol.*, St. Louis, **49**, 991.
Mead, S. V. (1932). *Milit. Surg.*, **70**; 238.
Walton, C. H. A., *et al.* (1941). *Lancet*, **2**, 214.

GROUP PSYCHOTHERAPY

BY

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Group treatment if effective would have a particular value in wartime, when there is a relative shortage of doctors and, potentially at least, an increase of patients with neurosis. The number of neurotic patients who can be adequately dealt with by one doctor varies according to the type of patient and the type of treatment practised by the therapist, but, in general, 25 to 30, with an average duration of stay in hospital of about six weeks, is a reasonable estimate.

The effort-syndrome unit at the hospital to which I am attached has 100 beds and comprises patients with various mild neurotic states, all of whom are carefully examined to exclude organic disease, and all of whom have fatigue as their main symptom. They show various anomalies of vegetative function such as palpitation, postural giddiness, labile blood pressure, tachypnoea, hyperventilation, frequent sighing, sweating of an emotional distribution, hot flushes, cramps, and paraesthesiae. This vegetative lability has frequently been present since childhood, and while individual psychotherapy may lessen psychic anxiety and effect personality change the somatic symptoms often remain very resistant to treatment.

Patients with effort intolerance were first treated here by the usual psychotherapeutic measures, in addition to the general psychiatric methods, an attempt being made to get at any major emotional factors which might help to explain the development of the patient's effort phobia. In the resulting discussion and explanation it was necessary to deal with the cardiac neurosis that was usually present. This necessitated some simple explanation of the physical accompaniments of an emotional state, but great difficulty was experienced in removing the patient's belief that he had heart disease, which was sometimes held with almost delusional intensity.

Another great difficulty was that patients did not come here seeking treatment: speaking generally, their main conflict was over Army service, which for one reason or another they disliked intensely. From contact with such men I came to the conclusion that their low morale was more satisfactorily combated by talking to them in groups than by individual interviews. One had the feeling—and this was endorsed by the nurses' observations—that in individual interviews the men fought shy of such a topic, but at night, after "lights out," would discuss freely their dislike of the Army, their grievances, and their desire for discharge, the last being amply justified because in their opinion they had heart disease, and so on. During such discussions a patient had ample opportunity for dramatizing his predicament, and there was no possible way for the other patients to verify his statements.

After two years of individual psychotherapy conducted under rather difficult conditions, as outlined above, influenced also by the need for doctors to deal with many more patients than is at present the case, it was decided to try a form of group therapy. The patients had been carefully selected and had approximately identical symptomatology: this made the problem much simpler than would usually be the case in a psychiatric ward. The treatment was tried on a group of 50 patients, the remaining 50 being given individual psychotherapy by other doctors. There were two main problems to be considered: the patient's attitude towards his symptoms, and the degree of group responsibility which he showed. These two aspects are best discussed separately.

Patients' Attitude towards Symptoms

As already stated, most of the men on arrival here had marked vegetative imbalance, which they interpreted as positive evidence of disease. A simple explanation of psychosomatic relationships did not appear to be sufficient to undermine this belief, and much more detailed instruction was indicated. The procedure adopted was to have three meetings a week at 9 a.m. on alternate days. The patients and doctor were seated comfortably, the whole atmosphere being completely informal. The junior nurses working on the wards sat at one end of the room. The talk lasted on an average 20 to 30 minutes, with a quarter of an hour at the end for open discussion. At first the talks covered a wide range of topics, including heredity, child psychiatry, the unconscious, propaganda, inferiority feelings, fatigue, relaxation, etc.; but it soon became clear that some definite system, whereby the education was more unified, was necessary. For this purpose I have found that the central nervous system is a suitable subject because it lends itself most easily to diagrammatic representation; thus, talks about the autonomic nervous system or different levels of consciousness as pure abstractions are quite beyond the average patient's comprehension, whereas the same subject taught with the use of charts or a model brain is capable of holding his attention and means something to him. For instance, the brain is explained to the group as functioning at three levels—the cortical, the thalamic, and the brain stem—which, functionally, represent consciousness and the peripheral nervous system, undifferentiated emotions, and control of visceral activity respectively. The peripheral nervous system and autonomic nervous system are then discussed in detail without, however, using medical terms or going into details of anatomy. The main point is that the men should have a rough idea of the function of the nervous system and its importance in adjusting the individual to his environment (the exterofective system of Cannon). The autonomic nervous system is dealt with in a similar way, its function in maintaining internal equilibrium being stressed. When the men appear to have grasped these two distinct concepts they are taught how activity or inhibition at any one level may affect

the other levels—e.g., the toxic effects produced by alcohol in removing the inhibitory influence of the cortex, resulting in uncontrolled emotional behaviour; or the effects of consciously apprehended emotional experience upon the vegetative nervous system.

The justification for teaching such an over-simplified abnormal physiology rests in the need for giving the patient some more or less concrete conception of the meaning of "nerves." By actually pointing to nervous structures, represented diagrammatically or by a model brain, the men find that such an abstraction as nerves becomes a reality for them in just the same way as heart disease represents a reality. Moreover, they are always ready to listen to any intelligible discourse about their health, and by frequent reference to everyday evidences of vegetative instability this impression that nerves are a reality is readily strengthened. The whole atmosphere is that of a lecture to intelligent men on a subject of general interest to them. This academic atmosphere is heightened by the presence of the nurses in that they are credited with a certain educational level and prestige. The knowledge gained increases the patient's self-esteem and offsets the embarrassment which so often accompanies an insight into his neurosis: thus the man whose wife has always shown considerable concern regarding his supposed heart condition is able to relinquish this particular ailment provided he can give her some alternative explanation which does not involve the loss of too much self-esteem.

Merely transferring the emphasis from "heart" to "nerves" would be no great advance if it were not for the fact that nervousness cannot be divorced from the total personality. It is easy for anyone to understand that his feelings of fear and so on are part of himself—i.e., feelings and self are much the same thing. In this way the individual realizes that he has a certain responsibility in relation to his feelings and cannot sit back and expect the doctor to do everything, in the same way as he might do if he had heart trouble. The man's own initiative and resources are therefore called into play to find some solution for his problem. At this stage he may ask what action he can take if, having arrived at the point where he is prepared to do his utmost to meet the difficulty, no solution presents itself. Such a situation calls for the highest level of adaptive behaviour, the patient accepting that, temporarily at least, no solution can be found and that only a positive effort at adaptation will prevent a breakdown. The negative personality factors are stressed here—the resentments, prejudices, etc., which if present prevent any possibility of successful adaptation and are fertile soil for the growth of anxiety.

Group Responsibility

The majority of patients seen here have a very circumscribed outlook and are largely preoccupied with their own symptoms, emotional difficulties, and domestic situation: few have reflected on the reason for their conscription or have stopped to consider what they are fighting for. They seldom read newspapers and have only the vaguest conception of the extent and complexity of the war. To them there exist their home and a vague, ill-defined, unfriendly outside world. With no better sense of values than these it is not surprising that some men quite openly and shamelessly hope for nothing but their discharge from the Army.

Two methods might be employed to alter this state of mind: (1) an educational programme, the aim of which is to give the individual a balanced view of the whole world situation and an ability to appraise for himself the merits and demerits of the various systems of government, and to realize that for democracy to succeed a feeling of responsibility from each individual is demanded; (2) an exposition of conditions and restrictions which exist in some other countries and particularly in the occupied countries, with emphasis on the tragic fate of some subjugated peoples. So far only the former method has been employed here, and it is in this sphere that the nurses have been particularly useful. Their main object is to imbue the men with a feeling of group responsibility and make them realize that far more is at stake than simply their own future. A man who has openly made up his mind to get out of the Army if at all possible has not only his own conscience to consider but also the effect of his attitude on his contacts in hospital, the men at his unit, and, if he is discharged, his contacts at home. His usual plea is that he would be serving his country much better in his civilian capacity at a job for which he was properly trained rather than one where he is a misfit. Such a man has seldom stopped to reflect that practically no one in the Army regards soldiering as his natural vocation and that in a sense the great majority of soldiers are doing work less efficiently than that for which they were, from choice and aptitude, trained in peacetime. The nurse attempts to make him become conscious of the fact that his attitude of mind not only concerns himself but may have a marked influence for good or bad upon his contacts. Her approach must necessarily be an indirect one and occur quite naturally in a social situation. The patients are usually only too ready to discuss their family problems and show the nurses letters from their wives, which all too often are most unsuitable for a neurotic patient to receive, with over-anxious inquiries about their heart trouble and expressing the hope that they will soon be discharged from the Army, etc. The doctor and nurse have to try and offset this damaging home influence and substitute a more realistic outlook. In general the men lack real beliefs, although most of them are convinced that their only salvation lies in a return to a circumscribed existence where they hope to escape from the awareness of world problems which they cannot understand and for which they feel no personal responsibility. The nurse first tries to improve the man's self-regard by getting him to talk about his past work and successes and, having established rapport, tries to arouse his interest in some activity within the Army. General reading is encouraged, particularly periodicals, because the more serious articles give a much greater amount of information than the daily papers.

These measures may appear to be so simple and obvious as to lack therapeutic value, but it must be borne in mind that we are not concerned with the doctor's analytic approach to the problem of morale but with the simple methods which nurses can apply. It would appear undesirable that the physician should himself be too closely identified with this problem, for by so doing he might endanger his privileged position as a doctor.

Summary and Conclusions

During the last few months group therapy has been given to a group of 50 patients with effort syndrome. No follow-up figures are yet available, so that any discussion of results is premature. There is no doubt, however, that simple talks on health problems bearing on their illnesses prove of great interest and value to the men. The danger of fostering hypochondriasis is fully realized, but a hypochondriacal attitude towards their symptoms was already present in these patients on admission to hospital and the various vegetative symptoms had been interpreted as evidence of disease, particularly heart disease. It was found comparatively easy to alter the conception of heart disease to one of "nerves." In order to do so, however, it was essential to avoid, so far as was possible, abstractions such as talks on emotions, the unconscious, belief, etc., and to build up instead an apparently real structure round the conceptions of the central nervous system, which was best done by the use of a model brain, charts showing the nervous system, etc. This led on to discussions on emotions and bodily changes, always relating events to actual change in the nervous system. The next step was to correlate vegetative symptoms, feelings, and self, which, if accepted, meant the adoption by the patient of a personal responsibility in relation to his illness. Finally, emotional difficulties and personality problems were discussed as being the level at which disequilibrium in the nervous system could best be tackled.

It has been found in practice that the men adopt these new ideas with surprising readiness, and that among themselves and in conversation with the nursing staff there is much less tendency to discuss their symptoms than previously. Further, the preoccupation with heart disease has almost disappeared from the wards, and the number of men returning for Army duty is higher than at any time since the unit started two and a half years ago.

Complementary to the group treatment is the employment of the nursing staff to give individual attention to patients, and

particularly to support the doctors' views regarding the patients' symptoms and to develop a sense of group responsibility. This must be largely an individual matter depending upon the ability and beliefs of the particular nurse, but an attempt has been made to indicate in a general way how the nurses have been encouraged to tackle these problems.

Impressionistically, the results have so far been better than with any previous method. There is no doubt that the atmosphere in the wards has improved enormously and the patients are far less preoccupied with their symptoms.

I would like to thank Dr. W. S. Maclay for permission to publish these results and for every possible encouragement.

THE SEDIMENTATION RATE AND THE SEDIMENTIN INDEX*

BY

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Since Fahraeus (1921) and Westergren (1920) investigated the phenomenon of the sedimentation of the red cells (E.S.R.) and first gave details of a technique for measuring its rate an extensive literature has accumulated on the subject. Much has been learned of the factors involved in the phenomenon, though its ultimate cause remains obscure, and of its implications in clinical medicine. Some half-dozen different techniques have been recommended for its investigation; this is unfortunate, since it is now abundantly clear that to be comparable results must be obtained under identical conditions. The estimation of the E.S.R. already occupies an important place in clinical pathology, but there is still not even general agreement as to the best means of its expression. Thus the Westergren E.S.R. estimation refers to mm. fall in one hour, the

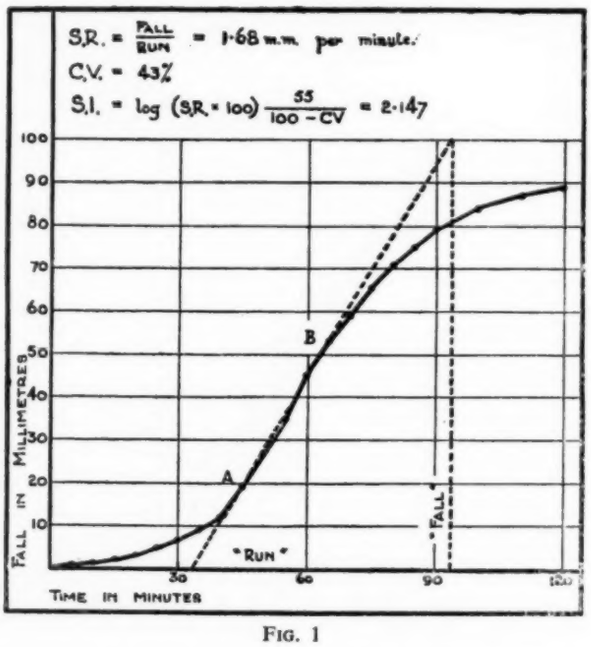

FIG. 1

Linzenmeier (1920) method reports the number of minutes taken for the red-cell column to reach a certain mark, and the Rourke and Ernstene (1930) technique records results as mm. fall per minute. The applications and implications of the E.S.R. in clinical medicine are far from being fully understood; the adoption of a common technique and mode of expression of results, such as to make the figures obtained by different workers comparable, would do much towards bringing about a fuller understanding.

Excellent reviews are available by Ham and Curtis (1938) and others on the technical aspects and by Reichel *et al.* (1936) and others on the clinical applications of the E.S.R. In the present communication it is proposed to deal only with certain

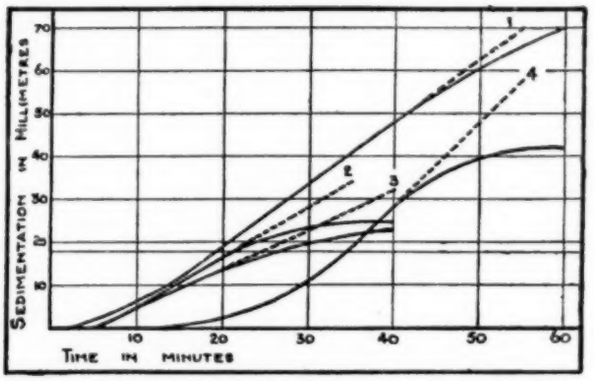

FIG. 2.—Sedimentation curves of samples of the same blood specimen by method of (1) Westergren, (2) Cutler, (3) Linzenmeier, (4) Rourke-Ernstene or Wintrobe-Landsberg. Erythrocyte cell volume 42.8%. [Graph drawn from Ham and Curtis's *Medicine* (1938).]

facts, already well known, but of which the importance in the estimation and expression of the E.S.R. has not perhaps been fully recognized.

The rate of the sedimentation of the red cells depends primarily on their clumping. The nature of the agent responsible for this clumping is obscure, but it is accepted that it is a factor resident in the plasma; this, following Day (1940), may be spoken of as "sedimentin." The purpose of the estimation of the E.S.R. is to find an expression of the activity of this factor. The phenomenon of sedimentation is governed by certain physical laws. As shown in Fig. 1 it follows three phases. First, from the zero point at the top of the column the red cells begin to aggregate and to move towards the bottom of the tube, increasing their speed until at point A the second stage, the "period of constant fall," is reached. In the third phase, at point B, "packing" intervenes and the rate of fall is slowed down until it is reduced to *nil* and the sedimentation is complete.

If the various techniques commonly in use for the estimation of the E.S.R. be employed on the same specimen of blood and at the same time, it will be seen, as shown in Fig. 2, that not only the falls as mm. in one hour but also the maximal velocities of sedimentation are different.

Factors Influencing the Sedimentation Rate

Size and Position of Tubes.—Once the period of constant fall had been reached the speed of settling of the corpuscles would remain unchanged if "packing" did not intervene. Therefore from a theoretical point of view the height of the column of blood should be infinite. This is not feasible, but to ensure reliable readings the blood column should be as high as possible. A height of 100 mm. is sufficient, but the 200 mm. of the original Westergren apparatus is preferable. The diameter of the column should be more than 2.5 mm., to avoid the capillary action of the tube (Walton, 1933). The tube must be perfectly vertical, as very slight inclination profoundly affects the rate of fall (Ponder, 1925).

Red Cell Volume.—The sedimentation phenomenon is due to the influence of plasma "sedimentin" on the red cells: therefore, in the presence of anaemia there will be a relative increase of "sedimentin" to each red cell present: Fig. 3 shows the effect of varying the concentration of the red cells in the same plasma. It shows that the more anaemic is the blood the higher is the sedimentation rate, and this not only if expressed as fall in one hour but also as fall per minute during the period of constant fall (Rourke and Ernstene, 1930; Schuster, 1938).

* Paper read before the summer meeting of the Association of Clinical Pathologists, June 27, 1942.

Anticoagulants.—The original Westergren technique and several of those described later employ as anticoagulants solutions of varying strength of sodium citrate. More recent techniques use heparin, dry potassium oxalate, or oxalate mixtures. The experiments of Ham and Curtis and others prove that only dry oxalate mixtures as recommended by Heller and Paul (1934) and heparin ensure comparable results and at the same time prevent shrinkage of the red cells, thus allowing a correct reading of the corpuscular volume.

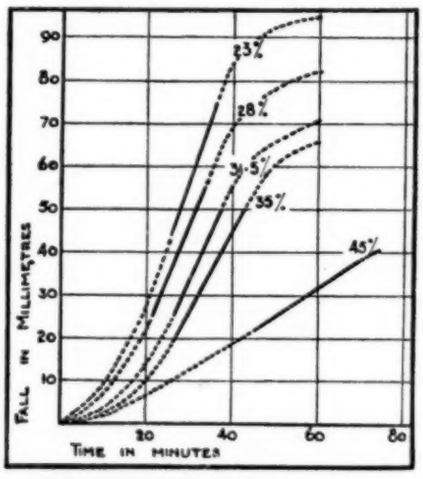

FIG. 3.—Showing the effect of varying the concentration of red cells in the same plasma. 45% = 0.70 mm. a minute; 35% = 1.97 mm.; 31.5% = 2.53 mm.; 28% = 2.64 mm.; 23% = 3.10 mm.

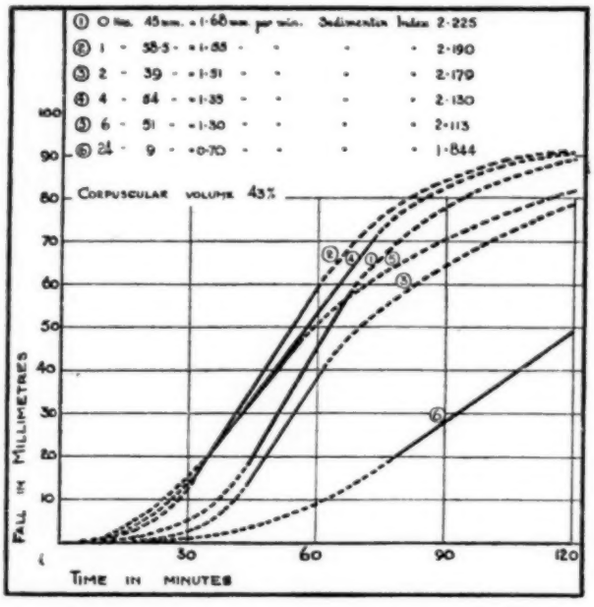

FIG. 4.—Graph showing progressive reduction with age of specimen of blood.

Time.—The E.S.R. is a labile phenomenon showing progressive reduction with the age of the specimen. Fig. 4 shows that the reduction is small up to from 4½ to 5 hours from the taking of the sample; thereafter it is rapid, until after from 24 to 48 hours the phenomenon has almost completely disappeared. The lability of the phenomenon has been shown by Day (1939) to be due to loss by the red cells, on standing, of susceptibility to clumping. The "sedimentin" activity of the plasma remains unimpaired for long periods. From this it follows that the "sedimentin" activity of the plasma of samples of blood older than 6 hours may be estimated with reasonable accuracy by combining the plasma with washed red cells from a fresh sample. Fig. 4 further serves to show that the crude reading of fall by mm. in one hour is not reliable, and that the figure subject to least variation is that expressing the fall over the period during which this is constant.

Temperature.—Variation in the ambient temperature considerably influences the sedimentation rate, but at the temperature of any ordinary laboratory this is not likely to be an important factor.

Size of Red Cells.—This appears to affect the sedimentation rate, but the variations so introduced are so small as to be of no practical importance.

Technique Recommended

From a vein in the antecubital fossa 5 c.cm. of blood is drawn into a centrifuge tube containing 10 mg. of the Heller and Paul dry oxalate mixture (4 mg. of potassium oxalate and 6 mg. of ammonium oxalate). A sedimentation tube of the Westergren type is filled to the 200-mm. mark; at the same time a haematocrit tube is spun down to ascertain the corpuscular volume. If the blood has been standing for some time (never more than 4 hours) it is gently but thoroughly mixed before setting up. The rate of fall is observed until the period of constant fall has been reached or until "packing" begins. The rate of fall can be observed either every 5 to 10 minutes or, as is desirable in the case of samples showing high sedimentation rates, by recording the time at every 5-mm. fall.

Finding the Sedimentation Rate and Sedimentin Index

The figures obtained by the observation are plotted on graph paper and the straight line expressing the period of constant fall is prolonged at both ends (Fig. 1). The sedimentation rate is given by the formula $S.R. = \frac{Fall}{Run}$ and expressed as mm. fall per minute. With experience it is easy to determine the period of constant fall from the figures alone without plotting. The normal range of the S.R. is from 0.05 mm. a minute or less up to 0.25 mm. a minute. The observed S.R. will in the presence of anaemia require correction for corpuscular volume. This may be done by means of the tables of Rourke and Ernstene. It can be done even more conveniently by making use of the sedimentin index suggested by Day.

The sedimentin index is the logarithm of the figure expressing the rate of fall over 100 minutes calculated on the basis of the constant fall per minute. Correction for anaemia may be made by simple arithmetical proportion, taking 45% as the normal corpuscular volume (C.V.), according to the formula,

$$S.I. = \log.\ (S.R. \times 100)\ \frac{55}{100 - C.V.};$$

and for correcting the observed sedimentation rate,

$$S.R.\ (corrected) = \frac{\text{antilog. S.I.}}{100}.$$

The normal range of the S.I. is from 0.5 or less to 1.4. Figures above 1.5 must be regarded with suspicion, but it must be borne in mind that a common cold may produce an increase of the S.I. up to 1.5 or thereabout.

The correction for an abnormal corpuscular volume is valid only in the presence of anaemia. In the case of bloods with C.V. higher than normal (polycythaemia, haemoconcentration due to shock, etc.), other factors, such as viscosity, enter into play and produce a retardation of the sedimentation not accountable for by the increased number of red cells. In these cases it is advisable to adjust the C.V. to a figure of 45% or slightly less before the estimation of the sedimentation rate.

Summary

For estimations of the sedimentation rate of the red cells to be comparable it is essential that they be performed by an identical technique and expressed in the same manner.

It is recommended: (1) That 5 c.cm. of blood be withdrawn by venepuncture into a dry mixture of 4 mg. of potassium and 6 mg. of ammonium oxalate. (2) That the estimation be made within four hours of withdrawal of the blood. If this is not possible the plasma may be separated and put up against fresh washed red cells. (3) That a tube giving a blood column of 200 mm. in height and at least 2.5 mm. in diameter be used and that this be set up in a strictly vertical position. (4) That only the rate of fall during the period of constant fall be considered in the expression of results. (5) That correction be

made for anaemia. This may most conveniently be done by using the sedimentin index of Day.

I wish to express my sincere thanks to Dr. S. C. Dyke, director of the department, for his advice and much helpful criticism; and to A. W. Farmer for his technical assistance.

REFERENCES

Day, G. (1939). *Tubercle*, **20**, 364.
—— (1940). *Lancet*, **1**, 1160.
Fahraeus, R. (1921). *Acta med. scand.*, **55**, 1.
Ham, T. H., and Curtis, F. C. (1938). *Medicine*, **17**, 447.
Heller, V. G., and Paul, H. (1934). *J. lab. clin. Med.*, **19**, 777.
Linzenmeier, G. (1920). *Arch. Gynäk.*, **113**, 608.
Ponder, E. (1925). *Quart. J. exp. Physiol.*, **15**, 236.
Reichel, H., *et al.* (1936). *Blutkörperchensenkung*, J. Springer, Vienna.
Rourke, M. D., and Ernstene, A. C. (1930). *J. clin. Invest.*, **8**, 545.
Schuster, N. H. (1938). *Tubercle*, **19**, 529.
Walton, A. C. R. (1933). *J. lab. clin. Med.*, **18**, 711.
Westergren, A. (1920). *Acta med. scand.*, **54**, 247.

THE PREPARATION OF HOUSE-DUST EXTRACTS

BY

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Although hypersensitiveness to house dust occurs quite commonly and is an important factor in producing symptoms—e.g., in asthmatics and some types of chronic bronchitis—its existence is often completely missed by clinicians, partly because many of the extracts produced commercially for testing and treatment are either feeble or inert. The incidence and significance of this form of allergy will be properly assessed, therefore, only when potent and stable extracts become readily available. Such extracts should be so potent that they produce a large, irregular, itching wheal when used in a "scratch" test, and they should be quite inert when similarly tested on the skin of normal individuals. The "scratch" test offers a ready means of comparing the activity of different fractions isolated from dust, and was used in preference to the intradermal method throughout this work.

Since Cooke (*J. Immunol.*, 1922, **7**, 147) first demonstrated that some ingredient in house dust acted as an allergen, many attempts have been made to establish its identity, but this still remains a mystery. At first it was assumed that the activity might be simply due to a mixture of known allergens, but subsequent work has made this seem unlikely, and it appears that it originates from a single substance. Investigations made during the past two years suggested that this active substance might be adsorbed on to the particles of dust, and it was found that N/100 ammonia, which is often used in eluting adsorbed substances, did, in fact, bring the active fraction readily into the aqueous solution. Samples of dust from different houses vary considerably in activity, but by the scratch test it is easy to select a satisfactory sample. Five hundred grammes of this is just wetted with N/100 ammonia and left for 24 hours. It is important not to add excess of the fluid. The mass is then wrapped in cloth and squeezed in a powerful press, and the muddy fluid so obtained is filtered through paper and the pad of a Seitz filter until a clear yellowish filtrate is obtained. Sodium benzoate (20 g. per litre) is now added, and this dissolves readily. Hydrochloric acid (1:5) is then gradually added until the mixture becomes just acid to Congo red. A very finely divided precipitate of benzoic acid appears, and after 12 to 24 hours this is filtered off in a Buchner filter and sucked as dry as possible. Much of the active substance is held in an adsorbed form in this mass of benzoic acid, and it is readily released when the benzoic acid is dissolved in acetone. An amorphous precipitate remains, and is removed by centrifugalization. It is washed repeatedly in acetone and finally in dry ether and allowed to dry. This brownish amorphous powder shows great activity and appears to provide an ideal test reagent, as it is quite inert when tested on "control" normal individuals. This method of adsorption does not remove the whole of the active substance from solution, so it is usually worth while to neutralize the filtrate and to repeat the process of precipitating benzoic acid at least once.

Samples prepared six months ago have remained very potent, but it is too early yet to decide on the keeping properties of the substance. It is of interest that Dr. C. Rimington of the National Institute for Medical Research, Hampstead, who carried out preliminary tests on a sample, reported that it appeared to be largely carbohydrate in nature and failed to give the usual reactions for proteins. If subsequent tests with purer samples confirm this they may throw a new light on the nature of allergens.

Tests on 100 asthmatic soldiers show that roughly 80% react strongly, and in 20 cases treatment by desensitization with a 1% solution produced spectacular improvement in almost every instance. Initial subcutaneous doses as small as 0.05 c.cm. produced marked swelling, redness, and itching within half an hour, but after a dozen weekly doses of increasing quantity even ten times the initial dose often produced little reaction, and this increase in tolerance was usually associated with a considerable lessening of the symptoms.

Exigencies of war have prevented further work on this substance at present, but the preliminary results have been so interesting that a note on this incomplete work seemed justifiable.

I wish to thank Prof. D. C. Harrison of the Department of Biochemistry, Queen's University, Belfast, for much helpful advice and hospitality, Dr. Cope for advice on the method of adsorption, Mr. W. Buick of Queen's University for much technical assistance, and Dr. Rimington for carrying out the preliminary biochemical tests.

Medical Memoranda

Subdiaphragmatic Collection of Bile following a Perforating Chest Wound

This case presents some unusual features which make it worthy of record.

CASE REPORT

The patient, a woman aged 36, sustained a penetrating chest wound from a bomb fragment on Sept. 8, 1940. She was transferred to our care two days later, an ill woman, cyanosed and dyspnoeic, with a temperature of 98.8°, pulse 92, and respirations 26. There was a small puncture wound on the right side of the chest in the mid-axillary line at the level of the eighth space. Movements of this side of the chest were poor, and there was a small area of dullness and diminished air entry at the right lung base. The abdomen was distended and rigid, and tender down the right side, especially in the hypochondrium. A radiograph of the chest showed a small opacity at the right base. A provisional diagnosis of pneumonitis and probable liver injury was made, and a blood transfusion and oxygen through a B.L.B. mask were given. The following day the signs, including a friction rub, suggested consolidation or haematoma in the right lung. Sulphapyridine was started in full doses. During the next few days the patient remained ill, with temperature 99°, pulse 100, and respirations 30, the main symptoms being a feeling of malaise, persistent abdominal pain, and an irritable cough, while the chief signs were dullness on the right side of the chest, which had gradually increased, with a correspondingly diminished air entry. At this time her conjunctivae were stained yellow and the urine contained bile. Further radiographs of the chest taken on Sept. 18, 8 days after admission, revealed what appeared to be an intrapleural collection of fluid, with a raised right diaphragm. Accordingly, on the same day a diagnostic puncture through the eighth space in the posterior axillary line was done; this yielded 20 c.cm. of sterile bile. The following day a further 100 c.cm. was withdrawn. Radiographs then showed the diaphragm to be considerably lower. After the second puncture the patient steadily improved, and radiographs taken at the end of October, about 8 weeks after admission, showed the diaphragm in normal position and a small bomb fragment situated in the centre of the liver area.

It was concluded that the missile had traversed the lower part of the lung, giving rise to the signs on admission, and after piercing the diaphragm had lodged in the liver. Following this liver injury an extravasation of bile had collected below the diaphragm, probably over the bare area. The exploratory puncture, although made in the eighth space, had gone through the pushed-up diaphragm into the subphrenic collection.

Commentary.—The main points of interest in this case are: (*a*) the difficulty in making an early accurate diagnosis; (*b*) the limitation of a large collection of bile to the subphrenic area;

and (*c*) the fact that this collection remained sterile. We believe that conservative treatment is correct in this type of case and that operative measures should be undertaken only if infection supervenes.

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Shock Treatment in Psychosis complicating Pregnancy

The beneficial effect of shock therapy in the treatment of the emotional mental disorders is now so firmly established that any possible contraindications should be critically examined before deciding to withhold treatment. Several conditions which were formerly considered to be a bar to shock treatment have since been found to involve very little risk. A consideration of the patient's age, for example, is not now regarded as important, and patients of 70 to 80 and children of 3 years have been successfully treated with induced convulsions (Hemphill and Walter, 1941).

Provided they are well compensated, cardiovascular disorders are not serious obstacles, even in cases of auricular fibrillation (Good, 1940). In fact, both cardiazol and electric convulsions act as cardiac stimulants, with apparent benefit in cases of circulatory asthenia and low blood pressure. But so far as I am aware, little mention has been made in the literature regarding the use of shock therapy in the mental disorders arising during pregnancy. Although such disorders are relatively uncommon, it is possible that in some quarters the pregnant state is thought to be a contraindication to shock therapy. The result in the following case, however, suggests that in suitable patients the treatment is fully justified and entirely harmless.

The stress of pregnancy may precipitate a mental breakdown in predisposed individuals, usually a state of depression, but as a rule the prognosis is good when mental disorders occur before the fourth month. If they appear later they tend to become increasingly severe until the birth of the child, when they usually disappear. In the late case shock therapy would be worth while if only to enable the child to be born at home instead of in a mental hospital, provided there are no risks to the mother or the child. The first consideration, however, is the possible risk of precipitating a miscarriage. But this appears unlikely when one thinks of the number of epileptic women who have fits during pregnancy with no untoward results. Goldstein *et al.* (1941) state that a review of the literature indicates that epilepsy does not influence pregnancy unfavourably other than by predisposing to injury from falls. (The spasms of epilepsy occur only in voluntary muscles.) Those workers also report the case of a schizophrenic, 3½ months pregnant, who was given 13 cardiazol seizures and insulin shock treatment for 13 days with no harmful effects on the pregnancy. They conclude that convulsive or insulin treatment is justifiable in pregnant women because of the apparent harmlessness of convulsive seizures due to these drugs and to epilepsy.

The following description of a similar case would seem to support the above conclusion.

CASE REPORT

The patient, a married woman aged 23, was admitted to Wadsley Mental Hospital on March 7, 1941, as a voluntary patient suffering from melancholia of pregnancy. There was no history of mental disorder, although she had had a child 3 years previously, but it was stated that her father was of nervous temperament. The second pregnancy, however, had given rise to considerable emotional stress owing to the failure of a herbal abortifacient.

On her admission the pregnancy was 4½ months advanced, and she was in a state of acute agitated melancholia, emotional and weeping, crying out that she was wicked and had done a grievous wrong. She felt that people were talking about her and that something terrible was about to happen to her. She was in good physical health. Her mental state showed no improvement during the first 5 weeks of her stay in hospital, and she was therefore given a course of electric convulsion therapy with a view to effecting her discharge from hospital before the birth of the child. She received 13 convulsive shocks during the ensuing six weeks, and there was a progressive improvement in her mental condition. She was discharged recovered on May 29, 11 weeks after admission, and a subsequent follow-up on March 4, 1942, found her in good mental health and with a healthy 7-months-old baby. The latter was born on Aug. 8, 1941, after a normal and easy confinement.

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REFERENCES

Goldstein, H. H., Weinberg, J., and Sankstone, M. I. (1941). *Amer. J. Psychiat.*, **98**, 201.
Good, R. (1940). *British Medical Journal*, **2**, 624.
Hemphill, R. E., and Walter, W. Grey (1941). *J. ment. Sci.*, **87**, 256

Reviews

HAEMATOLOGY

Diseases of the Blood and Atlas of Hematology. By Roy R. Kracke, M.D. Second edition, thoroughly revised, reset, and enlarged. (Pp. 692; illustrated. 90s.) Philadelphia, Montreal, London: J. B. Lippincott Company.

This work, of which a second edition has appeared within the relatively brief space of four years, is a very satisfactory textbook of haematology, which is in no way too advanced for the practitioner or the postgraduate student. It gives an extremely well-balanced presentation of the subject, without over-stressing the rarities, which is the chief pitfall in this field. It is beautifully produced and clearly printed on a thin matt paper instead of the horrible heavy glossy stuff which American publishers so often use, and it weighs only 4 lb. Its only serious fault is the price, which is 90s. This works out at 22s. 6d. a lb. We may compare this with Piney's *Synopsis*, which works out at 16s. a lb., and Janet Vaughan's *Anaemias*, which works out at 6s. a lb. These differences do not seem reasonable in terms of weight of text. On the other hand Kracke provides 54 colour plates for 90s., Janet Vaughan 4 for 12s. 6d., and Piney 4 for 10s. 6d. It is therefore clear that what the buyer is paying for is colour plates. It seems very doubtful whether it is economical to bind expensive colour plates with text which rapidly goes out of date, for the cells of the body remain the same however much our opinions about them may change. Atlases of haematology, like those of ophthalmology, would be better published without text, and one of the post-war desiderata is an international atlas of haematology, with an agreed terminology, which would be kept up to date by a standing committee, and of which a pocket edition would be published for the student. Such a student's atlas, with an international demand numbered in tens of thousands, could probably be produced for a few shillings, and its existence would be an incentive to writers of textbooks of haematology to describe the patient rather than the blood picture. For (*pace* some professors of medicine) the more we know about diseases and the more we can describe them in physiological terms, as we can the diseases of the blood, the less interesting they become to read about. No one can imagine "Kracke," or any other modern textbook of haematology, being treasured like "Trousseau" or "Osler" or read for its own interest a hundred years hence. Perhaps this is inevitable, and the textbooks of the future must be as dull and matter-of-fact as accounts of entropy or integral calculus. But in the meantime some of us feel that the drama of haematology still awaits its inspired author.

SCHIZOPHRENIA

Schizophrenia: The Cinderella of Psychiatry. By Reg. S. Ellery, M.D., F.R.A.C.P. (Pp. 170. 12s. 6d.) Sydney: Australasian Medical Publishing Co., Ltd. 1941.

This is not a textbook but an essay expressing the opinions of the author without reference to the work of others. Some may be put off by the great exuberance of language, for he delights in words and loves to juggle with them. Others may be put off by his undoubted predilection for Marxian principles. Nevertheless, the reader should not be put off; for Dr. Ellery does know all about schizophrenia, and gives a very good description of all aspects of the disease.

It may be that he accepts the promise of the new forms of shock therapy a little too optimistically, but he rightly states that they are the only kinds of treatment which have raised the expectation of remission or recovery above the average of "natural remissions" and have changed the ultimate prognosis of inevitable dementia to one of guarded hope for some sort of adjustment to life, even though it may be at a humble level. He discusses the question of prevention and seems to think that this lies chiefly in social reform, but in his computation of the evils of family life and the delinquencies of the average parent he rather overreaches himself. No doubt all the blows to the security and proper development of the child mentioned in the book may fall upon him at some time or other, though seldom all together; but no one has yet found

a substitute for family life; for the child brought up by the State is not so happy or so normal as the one who is reared in the much-maligned home, and, in the Russian experiment, home life and the family have been and are being restored.

This is a book which should be read, for it is stimulating and informative and, above all, not too long.

AN AUSCULTATORY METHOD

The Pleuro-subpleural Zone. Its Clinical and Experimental Investigation and its Practical Importance in Chest Pathology. By J. Skládal. (Pp. 104; illustrated. 10s. 6d. net.) Cambridge: The University Press. 1942.

The reviewer recalls meeting this author some years ago when visiting a hospital in Prague. Dr. Skládal was discussing his method of auscultation by sudden expiration, producing gramophone records to support his argument. In spite of language difficulties sufficient impression was made on the reviewer, who promised himself a trial of the method on his return to England, but the intention was not fulfilled. Study of this small volume, with its extravagant claims put forward in no modest manner, has not caused him to regain enthusiasm either for the method itself or for the wide knowledge of "chest pathology" promised by its practice. The following extract from the conclusions will give a clue to his feelings of confusion:

"In view of the polymorphism of corticopleural lesions, in order to allow for a clinical survey I consider it useful to distinguish between the true corticopleural syndrome, which may be simple or mixed, i.e. with lesions of rarefaction, and the pseudocortical syndrome. This principle of fundamental distinction has two advantages. On the one hand, it establishes a link connecting the cortical manifestations of pulmonary tuberculosis and unspecific pneumopathies; on the other hand, it stresses the importance of corticopleural lesions in daily practice. So the doctrinal elements of the true corticopleural syndrome bring some new and simple principles for use in everyday medicine."

All this is made easy by sudden expiration—"a method of sharp and relatively ample expiration, replacing the usual, noisy, and insufficiently elastic method of coughing, in auscultation and radioscopy of the lungs. So the different sounds are brought out more distinctly, and, radioscopically, various intrathoracic abnormalities may be revealed." But perhaps it is not so easy, after all, for this is what Dr. Skládal states in his introduction:

"During an examination in 1932 by the method of sudden expiration I noticed an acoustic phenomenon which was so strange that not only my assistants but in subsequent demonstrations even very experienced doctors, did not dare to confirm my findings immediately—findings upon which I particularly insisted—namely, that instead of a single expiratory sound, a double sound is to heard."

There may well be something in what the author claims, but he will need to convey his findings in a clearer form than in this book to convince the average reader.

CHEMISTRY'S KEY POSITION

Out of the Test Tube. By Harry N. Holmes, Ph.D. Third edition, revised and expanded. (Pp. 305; illustrated. $3.00.) New York: Emerson Books Inc.

In this illuminating book it is shown that most modern achievements in the realm of material prosperity owe their existence to chemistry, and the author also demonstrates the key position occupied by chemistry in their inception. The treatment of the theme is not devoid of technicality, but the technical matter is presented in a form easily to be understood without a knowledge of chemistry. The influence of chemistry is traced through a great variety of different fields. These include anaesthetics and the curative properties of sulphanilamide; the cheapening of motor-car construction due to the unique effect of tungsten in the production of machine tools; the production of synthetic clothing, agricultural crops, industrial and other explosives; the artificially controlled quality of indoor atmospheres; and the transmutation of elements by atomic disintegration.

The book is full of entertaining information—historical, industrial, and statistical—and it includes the most recent scientific developments. A number of the developments here described, some of which are still in the tentative stage, may appear somewhat startling even to readers who are generally well informed; one such is the use of mercury vapour in the place of steam for a working engine producing 12,000 horse power. The author is possessed of a vivid imagination and he has the skill to write with such effect that a lively understanding is imparted to the reader. The book is written in a cheerful and vigorous style and is enlivened at times with a vein of humour. As an American Mr. Holmes has some pertinent remarks to make on the situation of the United States with reference to strategic raw materials and world power. All is done in very clear language, and the book may be recommended to students of chemistry as well as to the reading public.

Notes on Books

An American eye specialist, Dr. G. GRIFFIN LEWIS, has prepared a book which he names *The Ophthalmic Formulary* (Springfield, Illinois: Charles C. Thomas; $3.50). It is in effect a catalogue of numerous prescriptions for all sorts of eye diseases which are stated to be the favourite prescriptions of prominent oculists from all parts of the world. This is followed by a list of the medicines used in these prescriptions, with a short statement of the utility of each drug. No fewer than 27 prescriptions are set out for the treatment of a very ordinary surface disturbance, especially among children, namely blepharitis, but several are only variations of the same main line of treatment. Naturally one turned to the disease for which effective treatment is most imperative, ophthalmia neonatorum. For this disease only two prescriptions are given, and there is not a word on the new and most effective treatment by the use of sulphonamides. Since the introduction of these drugs the treatment of ophthalmia neonatorum has been completely revolutionized; they have rendered the local treatment of the disease almost unnecessary. It is the most wonderful advance in eye work known to many generations. The omission of any reference to this method of treatment of ophthalmia neonatorum in Dr. Griffin Lewis's book suggests that an early second edition is imperative.

The fourth volume of the *Proceedings of the Medico-Legal Society of Victoria* (Melbourne: Brown, Prior, Anderson) contains nine addresses and the reports of the discussions on them. These maintain the high standard which the society has reached in the past. The paper on medico-legal aspects of gas warfare surveys the administrative measures taken by the Commonwealth and State Governments; the medical aspects largely concern administration, and the legal aspects emphasize the need for statutory amendments. The setting-up is proposed of a special court to hear appeals by property owners aggrieved at the segregation of their premises after a gas attack. Sir Frederick Eggleston criticizes much of the present judicial structure, and particularly the methods of bringing expert witnesses before the court and their examination. The evergreen subject of quackery is illustrated by Dr. Stewart Cowen with a wealth of examples from personal experience, and the discussion is unusually rich. Dr. Anita Mühl deals with suggestibility in witnesses, Mr. P. D. Phillips with some aspects of workers' compensation legislation, Dr. Guy Springthorpe with the treatment of mental deficiency in Victoria, Mr. R. R. Sholl with coroners' inquests, Mr. R. N. Vroland with the future of the two professions, and Prof. G. A. Paton with the development of forensic medicine.

Into a booklet of 80 pages the modest and anonymous author of *Reminiscences and Reflections of a Medico on Land and Sea* (Nottingham: J. Clough and Son; 3s. 6d.) has compressed his life story. Son of a Congregational minister, he obtained his education largely through his own exertions, and became more than ordinarily qualified—M.D. (gold medallist), M.S., F.R.C.S.Ed., D.P.H., M.R.C.S. His surgical life was mostly as assistant to Mayo Robson, but he left that to take up more remunerative work in general practice. Later he became interested in public health problems, and having secured the D.P.H. of Oxford was ere long appointed M.O.H. of a county. He spent 25 years in that sphere of work, and resigned at the age of 60. In order to satisfy a *Wanderlust* he then went to sea as ship surgeon, and the second half of his reminiscences concerns his voyages round the world. In a most concise way he gives vignettes of the numerous places he visited, and the reviewer, from a similar experience, can add that "MEDICO'S" descriptions are wonderfully true. The only fault about this publication is its brevity. Now that the author has found his ability to write, one can hope that he will do so at greater length, for the story of a successful professional career must always be interesting and useful to medical men, if only from the point of view of "Go thou and do likewise."

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SAVING MEDICAL MAN-POWER

When war broke out a large number of medical men who were liable for service in the Territorial or reserve Forces were immediately called up. The consequent adjustments in civilian practice were made without great difficulty, and a steady flow of practitioners to meet the further demands of the Fighting Services was maintained during the winter of 1939-40. After a short lull, when the Army was reforming on its retirement from Dunkirk, expansion became so fast that the conflicting requirements of the Services, civil defence, and ordinary civilian practice became hard to balance. The Central Medical War Committee had the duty of supplying practitioners but not of determining how many were needed for each specific purpose. In fact, by letting the supply fall short of demand it did informally allocate, and the branches of the Services which were thus partly unserved, appreciating the difficulties, were at first not too insistent in their protests. The position was, however, unsatisfactory and potentially dangerous. The Central Medical War Committee therefore urged the Government to find some method of satisfying themselves and the profession that complaints of Service and institutional over-staffing were not justified, and that each Fighting Service had regard to the needs of the others and of the civilian population in determining its own medical establishment. The Robinson Committee was accordingly set up at the end of 1940 to make a rapid survey of the problem, and reported early in January, 1941. In March, 1941, the Ministry of Health issued a memorandum[1] urging upon local authorities and voluntary hospitals the need for economy in the manning of their medical staffs, and indicating that the Service Departments were making a similar review. It soon became apparent that the latter assurance was not enough, and, again at the instance of the Central Medical War Committee, the Government appointed a standing committee, known as the Medical Personnel (Priority) Committee, to secure the utmost economy in the employment of medical personnel in His Majesty's Forces and all civil establishments. The First and Second Interim Reports of this Committee have now been published (see p. 287), being an account of its work up to February, 1942.

The reports indicate that the Committee first addressed itself to the problem created by the very heavy demands of the Fighting Services. Their co-operation was readily given, and the situation was greatly eased by a reduction in these demands for the last half of 1941 by 50% in the case of the Navy, 40% for the Army, and 37% for the Air Force. If it were permissible to give the actual figures they would be found impressive. In order to secure further economies in static home units the establishment of Regional Priority Committees was recommended, and special stress was placed on the desirability of co-operative arrangements between A.A. and Balloon Commands. The Committee then turned its attention to the staffing of civilian hospitals. Here it found itself in some difficulty from lack of accurate information, but the Ministry of Health and the Department of Health for Scotland undertook the somewhat formidable task of gathering and collating it. As a result of a study of the data so obtained it was recommended that there should be increased transferability of staff as between one hospital and another and that the tenure of A posts by men should be uniformly restricted to six months. Mental hospitals were asked to supply a hundred men for the Services by reduction of their establishments. In order to maintain the flow of young practitioners from hospitals to the Services and prevent the replacement of the A men, whose calling up had been accelerated, by more senior residents, a cut was recommended in hospital establishments of A, B2, and B1 posts, as filled at August 1, 1941, amounting to 15% in London and 10% in other Regions. On the other hand, the importance of expediting the absorption of newly qualified men into A posts was stressed. Attention was also drawn to the need for scrutiny of pathological, research, and public health establishments, with a view to the release of young men. Hospital authorities are aware that further measures have been taken to speed up the recruitment of young practitioners since these reports were prepared.

There is evidence that the Ministry of Health and the Department of Health for Scotland have addressed themselves energetically to the difficult and uncongenial tasks imposed on them by the acceptance of these recommendations. If these steps had not been taken it is apparent that the situation in general and special practice would have been even more difficult than it has become in recent months. Having examined sources of supply so thoroughly, the Medical Personnel (Priority) Committee might now profitably revert to the scrutiny of Service establishments in order to ensure that the economies they exercised a year ago are being maintained. The profession is indebted to this Committee, consisting mainly of medical men who have devoted much time and thought to the problems of man-power, and very specially to Dr. G. C. Anderson, without whose constant attendance as Secretary of the Central Medical War Committee the Committee might often have been at a loss for accurate information.

[1] *British Medical Journal Supplement*, 1941, 1, 44.

THE PRESENT POSITION OF HYPNOSIS

Hypnosis has had a chequered history. At first it was viewed with suspicion, partly because of its mysterious nature, partly because of the dubious personality of one at least of its pioneers. However, in the hands of Bernheim in France, and in this country of practitioners like Bramwell, it became a highly respectable and fairly popular method of treatment. It is surprising to read in Bramwell's book that hypnosis was used with apparent success in such conditions as phobias, which are nowadays supposed to depend on complexes of a kind which pure suggestion seems ill qualified to reach and to modify. Fluctuations of this sort in the popularity of a method of treatment are not unfamiliar in medicine as a whole. They have usually characterized a remedy which depended for its effect entirely on suggestion, this effect having something unsatisfactory about it, particularly as regards its permanence. There are other reasons why such remedies fade into the background and disappear. Suggestion in any form to be successful depends above all else on the therapist himself, and the efficacy of the method is proportionate to the vehemence of his own belief in it. It is more difficult for the modern doctor to have a profound belief in hypnosis than it was for his predecessor. With the progress of science hypnosis has come to look less and less respectable, and more and more like a sort of confidence trick.

It is also possible that, immured and even protected behind his test-tubes, the physician's own personality has become less and less a permanent feature in treatment, and has become incapable of operating in any powerfully suggestive fashion.

The use of hypnosis has been handicapped also by the fact that it has been imperfectly understood. A great deal of what passes for hypnosis is not hypnosis at all; some patients are merely drowsy, some have actually fallen into a true sleep on the hypnotist's couch, and others, to please the doctor, have politely agreed that they were hypnotized. Hypnosis, properly so called, is unmistakable. Its outstanding characteristics are the patient's apparent abandonment of jurisdiction over his own will and his complete passivity. The scope of consciousness appears also to be restricted, allowing hallucinatory developments to occur that are independent of the environment. How often such a state of extreme passivity, suggestibility, and limitation of consciousness figures in a session in which hypnosis has been claimed has never been submitted to statistical examination. There have been other disadvantages in the method besides uncertainty as to the nature of hypnosis and its dependence on the hypnotist's own belief in his technique. At one time, in the French courts, post-hypnotic suggestion was urged as a defence in cases of crime. People under the influence of hypnotic suggestion, it was supposed, might do anything. Then a famous experiment recorded by Janet seemed to "debunk" this claim for ever. Recently, however, a hypnotized subject was induced to throw acid into the face of another person, who was, however, in reality protected by a screen of invisible glass. The vehicle of this experiment showed all the signs of horror and repugnance as he threw the scarifying fluid. The dramatic capacity of the hypnotized subject and the likelihood that his total appreciation, conscious and unconscious, of the situation was as great as that of the operator's, makes even this modern experiment difficult to accept at its face value.

For all these reasons it is good that an attempt should have been made to investigate what is essentially a psychological process by what is the most refined method of clinical investigation of mental states that exists. Ferenczi emphasized that in hypnosis and suggestion the patient transferred to the hypnotist his infantile loves and hates. Sandor Lorand[1] recently had an opportunity of analysing a young woman who had been hypnotized by someone else, and his observations in this case seem to confirm Ferenczi's view. It became clear that the patient had been much attached to the physician, and that she had entertained unconsciously a desire for seduction. Lorand points out that the hypnotic treatment was mishandled and might have been used to satisfactory effect. The fundamental basis of the relationship, however, of subject to operator under hypnosis, according to this psycho-analytic investigation, is the reactivation of feelings for the parents, dating of course from early childhood.

The subject is of some importance to-day in view of the findings of the last war—more than in this one so far—that painful experiences of an adult sort may be repressed and give rise to symptoms, the latter disappearing when the memory is recovered under the influence of hypnosis. It is more than a little doubtful whether hypnosis in this sense has much in common with the sort analysed by Lorand. Certainly the therapeutic aim is much more limited, and whether the subject's attitude to the operator involves a reactivation of early wishes in such circumstances is a matter requiring elucidation. It happens that so far this war does not seem to have produced the same crop of amnesias from psychological trauma as the last. Moreover, there has appeared in the method of injection of an intravenous barbiturate a means of recovering such memories with more certainty and in a shorter time than by ordinary hypnosis. At the same time there is a temptation to rush to the barbiturate method when hypnosis could quite well succeed. It may be, however, that there is something to be said for the view that it is a better therapy which does not involve the extreme emotional dependence that hypnosis, even for this limited purpose, probably does. In this connexion we may recall Freud's remarks in *An Autobiographical Study*: "Increasing experience had also given rise to two grave doubts in my mind as to the use of hypnotism even as a means of catharsis . . . even the most brilliant results were liable to be suddenly wiped away if any personal relation with the patient became disturbed . . . the personal emotional relation between doctor and patient was, after all, stronger than the whole cathartic process, and it was precisely that factor which escaped every effort at control." Treatment by means of injection is more readily accepted and understood by the modern patient than hypnosis is likely to be. It has been used also with some success as an adjunct to some analytic types of psychological treatment, and even in psychotic syndromes, in which hypnosis is usually ineffective.

The correct practice seems to consist in a judicious choice of psychological methods of treatment, including hypnosis. Increasing knowledge need not destroy all belief in the usefulness of the latter, but should rather refine its application and strengthen reliance on it in its proper scope of application. Lorand's two cases are an example of its discreet employment in the light of knowledge not available to the pioneers.

[1] *J. nerv. ment. Dis.*, 1941, **94**, 64.

SEASONAL INFLUENCES

Dr. A. B. Fitt, who holds the chair of education at Auckland University College, has for many years been interested in the problem of seasonal variations in bodily and mental processes. He has made many observations himself as well as a comprehensive study of the literature, and his conclusions are presented in an excellent monograph.[1] An impressive body of evidence points clearly to a fundamental rhythm. During the autumn–winter period, say, September–January in the northern hemisphere, weight increase is at a maximum and height increase at a minimum, this being reversed during the spring–summer period. The most important observations on mental growth and function are those of Prof. Fitt himself. He finds a higher level during the autumn–winter period, the climax occurring about mid-winter. Thereafter there is a rapid fall in the early spring, followed by a recovery about April and May; the level then attained, however, is not as high as during the winter. It is also noted that muscular capacity, as measured by the dynamometer, is maximal during spring–summer, as also are such indexes of instability as suicide or the onset of mental illness.

An even more interesting series of observations deals with differences associated with period of conception. There can hardly be any doubt as to the reality of this variation. Those conceived during the period autumn–winter are on the average slightly taller, heavier, stronger in hand-grip, and more intelligent than their fellows, as well as less likely to die during the first month of neonatal life. Once again the maximum occurs towards the end of the favourable period and the minimum early in the spring–summer period. A rough estimate of the order of magnitude of the greatest

[1] *Seasonal Influence on Growth, Function and Inheritance*, by A. B. Fitt. New Zealand Council for Educational Research, 1941. 10s. 6d.)

differences when adult life is attained would be half an inch in height and one and a half points of I.Q. Prof. Fitt will make orthodox biologists shudder by calling this an effect on "inheritance" and by his light-hearted assumption that it is determined by the total organic condition of both parents at the time of the conception of the child, and is therefore due presumably to something passed on to the fertilized ovum via the gametes. It is much more probable that the differences are related to the state of the mother during pregnancy. In view of the correspondences found it seems likely, however, that the important period is the earliest part of pregnancy. After reviewing various lines of evidence Prof. Fitt rejects hypotheses which seek to relate these differences directly to external factors. To give one reason alone, the periodicity is too universal and too constant to be explained in terms of temperature or diet. He puts forward the suggestion of an endocrine rhythm to which the pituitary makes the most important contribution. This rhythm is doubtless affected, however, by external factors, of which solar light is likely to be the most important. Interesting comparisons are made between some human observations and those on hibernating animals. The general picture is of an autumn–winter period of minor stress with weight increase at its maximum, as is also mental activity and emotional stability. This is succeeded by the period of major stress. Increase in height is now maximal, and the generally unfavourable character of the period is reflected by slight, though real, differences in many indices. It seems likely, furthermore, that the most unfavourable period of all is the pale reflection in the human subject of that critical phase when the hibernating animal is adjusting itself once more after its comfortable winter sleep to the strain and perils of an active life.

VITAMIN B_1 DEFICIENCY AND THE NERVOUS SYSTEM

One of the difficulties of applying experimental results to clinical medicine is the great variation in response shown by the various types of animal to the same procedure. This apparent lack of uniformity is often attributed to individual and species differences. In pigeons, for example, vitamin B_1 deficiency produces head retraction, which rarely if ever occurs in the human subject. A recent series of papers by Swank and his colleagues[1 2 3] from the Harvard school goes far to elucidate some of the problems of symptomatology of B_1 deficiency in pigeons, with special reference to pathogenesis and morbid histology. Several points of clinical interest are brought out in this study. There appears to be little doubt that both clinical and histological aberrations from normality vary according to the speed at which the deficiency is brought about, which in turn is largely dependent on the ratio between B_1 intake and caloric value of the diet. With very acute onset there was increased tendency to the appearance of opisthotonos, whereas when the effects of B_1 deficiency were minimized by a lessened carbohydrate intake ataxia and leg weakness preceded the head retraction, which often did not occur. This is of importance in the use of opisthotonos in pigeons for assay purposes, indicating the necessity for maintaining a standard caloric intake before conclusions are drawn as to the amount of vitamin B_1 ingested. It is obvious that the different clinical syndromes are primarily the result of different rates of development of the deficiency. Therapeutic experiments also throw light on the pathological processes at work. Opisthotonos yields rapidly to the administration of vitamin B_1, indicating that the symptom is the result of metabolic upset which has not yet caused structural damage. Leg weakness, on the other hand, requires days or even weeks before B_1 therapy produces recovery, suggesting that there is some tissue degeneration. These speculations are confirmed by the authors' studies of the histological changes. With opisthotonos there is generally no structural change in the nerve fibres of either the central or peripheral nervous system, whereas with leg weakness there is degeneration of the peripheral nerve fibres, the number involved being roughly proportional to the severity of the clinical condition. A further connexion between the clinical picture and histology is seen in the finding that clinical improvement is closely correlated with the regeneration of myelinated nerve fibres. Degeneration begins first in the axis cylinder at the distal end of the fibre, and with long-continued B_1 deficiency progresses centrally, followed by changes in the myelin sheath. The cell body very soon shows signs of chromatolysis, which persists even during recovery of the neurone, suggesting that the changes in the cell are manifestations of the neurone's effort to regenerate its axis cylinder. Furthermore, it is obvious that even with complete withdrawal of the vitamin sufficient B_1 is released from the tissues to stimulate, or at least enable, the neurone to make attempts at regeneration. Indeed, with complete starvation the vitamin B_1 derived from the tissues is sufficient to reduce considerably metabolic abnormalities and structural changes in nerve tissue. It would be interesting to know whether there is any correlation between the dosage of vitamin B_1 and the rate of histological regeneration and clinical improvement, or whether above a certain not very high optimum no further benefit is obtained.

The experimental results recorded in these papers throw considerable light on the different clinical pictures of B_1 hypovitaminosis. There is little doubt that the rate at which B_1 deficiency is produced is an important factor in this connexion. Unless there is complete inanition the intake of aneurin by man rarely reaches such low levels as can be obtained experimentally, so that the common syndrome approximates that of the chronic type of deficiency. There is still left for exploration the part played by factors other than speed in the pathogenesis of such conditions as Wernicke's encephalopathy, which Campbell and Ritchie Russell[4] suggest is largely the result of defective supply of vitamin B_1.

[1] *J. exp. Med.*, 1940, **71**, 683.
[2] *J. Nutrit.*, 1941, **22**, 77.
[3] *Arch. Neurol. Psychiat.*, Chicago, 1942, **47**, 97.

PREMARITAL EXAMINATION LAWS IN THE U.S.A.

Thirty States in the U.S.A. have adopted some form of compulsory medical examination before the issue of a marriage licence. The requirements vary in the different States. Seventeen require examination only for syphilis, and the remainder include in their demands freedom from other communicable venereal diseases. North Carolina and Rhode Island demand absence of tuberculosis, and, in North Carolina and Oregon, epilepsy, mental defectiveness, drug addiction, and chronic alcoholism are regarded as being deterrents to marriage. The method by which these examinations are made is different: some States permit any licensed physician to perform them, and others demand that they be carried out in the State in which the marriage licence is issued. The lack of reciprocity in the different

[4] *Quart. J. Med.*, 1941, **10**, 41. See also *British Medical Journal*, 1942, **1**, 249.

States naturally leads to difficulties, more especially at a time when America's young male population is being scattered over the country. It is necessary for a male applicant to arrive sufficiently far in advance of the wedding ceremony to allow the performance of the required laboratory tests. A haemolysed specimen, a clerical error, an unexpected positive, or some other unanticipated obstacle may have embarrassing consequences. But in certain cases, and more especially in the case of a pregnancy, a licence may be issued even although the requirements have not been fulfilled.

In commenting on the action of the laws dealing with premarital examinations, Drs. G. F. Forster and H. J. Shaughnessy[1] point out that the lack of reciprocity is because they have originated in different States and have been formed by the forces of opposition and support existing there. The differences would have been eliminated had there been some central authority to co-ordinate them. But, whilst the fact that each State has been responsible for its own legislation has brought certain disadvantages, it has also brought advantages. Errors which were made in the early experiments have been avoided in some of the later ones, and in time it should be possible to establish some form of reciprocity which will make for smoother running and impose less hardship on those who are applying for a licence. This American experience should be of value to this country if it should ever decide to make the issue of a marriage licence depend upon medical evidence of a clean bill of health for the contracting parties. Were we living in Erewhon a certificate of psychological fitness would also be a stipulation.

TUBERCULOSIS IN OLD PEOPLE

Widely divergent views on prognosis in tuberculosis of old people have been expressed as the result of clinical studies alone (Brooks and Lander,[2] Snell,[3] Rest[4]). A. Arnstein[5] throws light on the pathological aspect of the condition. His study is based on 135 necropsies of people over 60 at a large hospital in Vienna between 1929 and 1934. "Anthracosis" of the mediastinal and bronchial lymph glands is known to be common in elderly people who have lived all their life in the atmosphere of industrial districts, but it is believed to be of no practical importance. Arnstein shows that, though no causal connexion with dusty trades can be found in these people, the changes in the glands are often anthraco-silicotic or silico-tuberculous. In his cases the lungs themselves were free from gross silicotic changes; the degree of pneumoconiosis in the glands corresponded with that found in the earliest stage of industrial silicosis, when the root glands are mainly affected. The very low dust content of the air breathed by the ordinary inhabitant even of a smoky district would account for the length of time necessary for the development of even slight silicotic changes and for their appearance only at an advanced age. Fibrous periglandular adhesions between the glands and neighbouring structures may occur in the course of the pneumoconiotic inflammation, but more often they have already been present as a sequel to old tuberculous foci. Such foci often contain viable tubercle bacilli, and the superadded "silicosis" may apparently cause reactivation of the lesions either because silica has a definite attraction for calcium (Amor[6]), thus causing decalcification of the foci, or, as demonstrated by Arnstein, because phagocytes densely packed with carbon particles may cause destruction of hyaline and even cartilaginous tissue. The reactivated tuberculous lesions will in favourable cases soon heal again, but in others caseation spreads along the mediastinal lymph glands to reach the venous angle, where bacilli may enter the blood and thus cause haematogenous lesions; or the morbid process may invade and damage neighbouring structures. The latter results may occur with glands that are pneumoconic only. Indeed, the author stresses that the differential diagnosis between pneumoconio-tuberculosis and pneumoconiosis, as well as between the former and simple tuberculosis of the lymph glands, is often very difficult, even on histological examination. Among Arnstein's cases, in 51 instances lymph glands erupted into the bronchial tree. The perforation was followed by chronic pneumonia in 2 cases, by lung abscess or gangrene in 5, by caseating lobar or lobular pneumonia in 24, and by no lung damage in 20 cases. In 34 cases diverticula of the oesophagus were produced, 13 of which ruptured into the bronchial tree. Perineuritic fibrosis may cause nerve paralysis: the left recurrent laryngeal nerve was found damaged in 47 cases, the right recurrent in 2, both these nerves in 4, other branches of the vagus in 7, the right phrenic in 4, and the left in 6 cases. Rupture into a blood vessel caused a fatal haemorrhage in 15 patients.

Analysis of Arnstein's material shows an increasing incidence of gland lesions with advancing age, and a marked preponderance in women. An explanation offered for the latter fact is that more women than men with healed tuberculosis reach old age. Arnstein points out that the conclusions drawn from his observations might not apply in full to other places, but here he has at all events found good examples of the conditions in the Students' Museum of U.C.H. Medical School and in the Wellcome Museum, and he has already seen 2 or 3 cases in hospital. He reports fully one case from the Northern Hospital, Winchmore Hill, of a woman of 55 who died from caseous tuberculous pneumonia caused by eruption of a tuberculous mediastinal gland into a bronchus. This instructive communication should lead to the study of a sufficiently large post-mortem material on similar lines here.

1 *J. Amer. med. Ass.*, 1942, **118**, 790.
2 *Brompton Hosp. Rep.*, 1937, **6**, 138.
3 *Tubercle*, 1941, **22**, 111.
4 *Amer. Rev. Tuberc.*, 1942, **45**, 280.
5 *Tubercle*, 1941, **22**, 281.
6 *An X-ray Atlas of Silicosis*, 1941, Bristol.

TREATMENT OF MALARIA IN BRITAIN

The occurrence of cases of malaria among Service personnel in this country has prompted the Ministry of Health and the Department of Health for Scotland to invite the co-operation of retired medical officers of the Colonial and Fighting Services in the diagnosis and treatment of such cases. Many civilian hospitals and practitioners suddenly faced with what is, in this country, a rare disease may be glad to accept the help of someone who has had practical experience of the disease in the Tropics. It is anticipated that only very infrequently would such help be called for, but on these occasions it might be urgently needed. The Ministry of Health and the Department of Health for Scotland would be grateful if any officer who can offer his services in this connexion would forward his name and home address to the Director of Establishments, Ministry of Health, Caxton House, Tothill Street, S.W.1.

Sir Henry H. Dale, M.D., P.R.S., who was recently appointed a member of the Governing Body of the Lister Institute of Preventive Medicine, has been elected by the Board as its Chairman.

ECONOMY OF MEDICAL MAN-POWER

THE SHAKESPEARE COMMITTEE'S REPORTS

The Ministry of Health publishes to-day through H.M. Stationery Office the first and second interim reports of the Medical Personnel (Priority) Committee, commonly known as the Shakespeare Committee, and these are reproduced below substantially in full. The membership of the Committee has been as follows:

Sir Geoffrey Shakespeare, Bt., M.P. (chairman), Sir Girling Ball, Major-General R. J. Blackham, M.D., Dr. J. Crighton Bramwell, Dr. J. A. Brown, Dr. W. M. Knox, Sir Hugh Lett, Bt., Surgeon Vice-Admiral Sir Percival Nicholls, Prof. R. M. F. Picken, M.B., Major-General R. C. Priest, M.D., Air Marshal Sir Victor Richardson, M.B., Prof. Sydney Smith, M.D., Mr. H. S. Souttar, Sir Alfred Webb-Johnson, and Sir Charles Wilson, P.R.C.P. Dr. G. C. Anderson attends the committee as Secretary of the Central Medical War Committee. Sir Hugh Lett was a member in virtue of his office as President of the Royal College of Surgeons; his place was taken by his successor in the Presidency, Sir Alfred Webb-Johnson, in July, 1941, and the vacancy thus created was filled by the appointment of Sir Girling Ball. Major-General Blackham replaced Major-General Priest in October, 1941.

The Committee's terms of reference were: "To investigate in the light of the recommendations made in January, 1941, by the Committee of Inquiry on Medical Personnel [the Robinson Committee] what further steps can usefully be taken to secure the utmost economy in the employment of medical personnel in H.M. Forces, the Civil Defence Services, the Emergency Hospital Scheme, and all other medical services, including general practice; and having regard to any recommendations made as a result of such investigation to report from time to time what should be the allocation between the above-mentioned services of the available medical personnel."

The first interim report, addressed to the Minister of Health, is dated August 6, 1941, and the second interim report February 11, 1942.

FIRST INTERIM REPORT

We have now held 25 sittings since July 3, 1941, and members have acquainted themselves by personal visits to selected establishments with the general arrangements designed to meet Service and civilian medical needs of the population in those areas. We intend at a later stage to present to you further reports. In view, however, of the demands made by the Services for the next six months, we wish to make a number of urgent recommendations, the need for which we have already established.

We have investigated the demands of the three Services for medical personnel to satisfy their requirements for the six months ending on December 31, 1940. Since the "Robinson Report" each Service has reviewed its establishments and requirements and effected economies. Considerable economies have been secured during the progress of our inquiry, and the view of the fighting Services is that their demands have been reduced to a minimum if the efficiency of medical services is to be maintained and further expansion programmes are to be met.

We have further inquired into civil establishments making any appreciable call on medical man-power, particularly the E.M.S. and other hospital and health services. We are not in a position at present to express an opinion on many of the medical personnel requirements of these services.

With the information at present available to us we are of the opinion that the withdrawal of the proposed further number of medical practitioners from civil practice will impose a severe drain on existing resources. In view of the shortage of doctors it is imperative to review continuously their distribution, so that further economies can be effected. Some of these can only be secured by the closest co-operation between the Services mutually with one another and between them and the civil authorities. We have already received much evidence of co-operation between the Services, both between the Directors-General in London and between senior medical officers of the three Services throughout the country. Nevertheless, the degree varies from Region to Region, and much more might be accomplished if the good will already existing expressed itself through a recognized machinery. In few areas has a concerted effort been made to ensure the most economical use of the available medical man-power, whether Service or civilian.

In the Civil Defence Regions the health and hospital services are already co-ordinated under the direction of the senior administrative officers and regional medical and hospital officers of the Ministry of Health. Army and R.A.F. Commands are based respectively on geographical and functional considerations. We are therefore of the opinion that the Civil Defence Regional areas provide the best basis for reviewing the requirements of those types of medical services which can be regarded as more or less static.

Recommendations

We therefore recommend that a committee should be set up in each Region composed of senior medical officers representing the various commands of the fighting Services in that Region and the regional medical and hospital officers of the Ministry of Health and such other officers as may be necessary. The liaison medical officer for the area, appointed by the Central Medical War Committee, should also be a member of the committee. The chairman should be a neutral person, preferably the Regional Commissioner or his deputy. This committee should meet regularly and should be charged with the duty of ensuring the maximum co-operation to meet civil and Service needs in the area. It should be directed to make a review immediately and should make further reviews from time to time in order to effect economies in medical man-power within the Region and the elimination of under-employment and overlapping of medical personnel.

The reports of the Regional Committees should be sent to the Minister of Health and the Secretary of State for Scotland, and copies should be sent by them to the Departments concerned and to the Medical Personnel (Priority) Committee, to enable that committee after receiving the comments of the Departments to make appropriate recommendations. If agreement can be reached within the Regions effect should immediately be given to the agreed proposals with the consent of the Departments concerned, and such agreements should be recorded in the reports.

In the view of your committee this review and the action taken on it should lead to an economy in medical personnel.

In the meantime we recommend that the Minister of Health and the Secretary of State for Scotland request the Central Medical War Committee to continue to provide medical officers to the Services at the present rate. At a later stage we shall be able to assess more precisely the number required. To facilitate the work of the C.M.W.C. in obtaining the necessary numbers, part of which will have to come from hospital staffs, the Ministry of Health and the Department of Health for Scotland should be asked to obtain complete particulars as to the bed accommodation and staffing of all civilian hospitals in Great Britain.

In certain areas it will be extremely difficult, on the basis of the present age group, for compulsory recruitment to obtain for the Services all those male practitioners who can be spared from the civil medical services of the area. This is due to the uneven geographical distribution of the age groups throughout the country and to a relative shortage in certain areas of male practitioners under 41. In addition, there is a large number of practitioners of military age engaged in the hospital services whose removal would be impracticable.

We have considered as a solution the possibility of the exercise of compulsory powers to transfer general practitioners into areas where there is more urgent need of their services. There are difficulties which could be overcome in transferring a practitioner from one salaried post to another, but there are insuperable difficulties involved in transferring practitioners from one practice to another on account of the personal nature of the services rendered and the difficult financial problems involved. We therefore suggest that the Ministry of Labour should consider the advisability of raising the age limit for liability for service for the medical profession by five years over that for the remainder of the population.

The satisfaction of the Service requirements must be made in part by further depleting existing hospital staffs. To enable this drain on the staffs to be met with the minimum loss of efficiency it is essential to have power to move the medical staff employed on a whole-time basis (in A, B2, and B1 posts) from one hospital to another with greater freedom than at present exists. For this purpose we recommend that the present powers of compulsion under Defence (General) Regulation 58A should be used by the Minister of Labour, through the appropriate National Service officers, so as to secure that such medical personnel in whole-time employment can be transferred as desired to meet not only the threat of invasion but any other period of stress. Greater mobility will ensure economy in personnel.

Finally, we recommend that the Medical Departments of the Army and Air Force should take immediate steps to see how far economies can be effected by pooling their medical officers of the A.A. Commands and Balloon Barrage and employing them on an area basis.

SECOND INTERIM REPORT

Since our first meeting on July 3, 1941, we have held 49 sessions, and have carefully considered the whole problem of the medical needs of the country in relation to the civilian population and the fighting Services. We have inquired into the distribution of medical personnel between the fighting Services, civilian practice, the public

health services, and hospitals throughout the country. We have further examined the demands made by the three fighting Services and the Indian Medical Service, and have considered the provision of medical personnel to meet all the needs of the civilian population. We have investigated existing sources of supply for the Services and, where they have proved inadequate, have made recommendations to supplement them. We have heard evidence given by medical representatives from the armed Forces and civilian services, and a number of witnesses whom the committee considered would be of assistance in their deliberations.

Since submitting our First Interim Report we have periodically framed our recommendations in the form of resolutions on which action had been taken by yourself, by the Secretary of State for Scotland, and by your Departments. A summary of these resolutions is attached in the Appendix.

We deem it advisable to summarize as briefly as possible the conclusions we have reached on problems connected with the supply and distribution of available medical personnel to meet all requirements. The Central Medical War Committee carried out on Jan. 24, 1942, a count by age groups of practitioners on the *Medical Register*, showing the distribution of these practitiorers and the numbers recruited to the Services.

Requirements and Economies

When we commenced work in July, 1941, we first investigated the requirements of the fighting Services for the last six months of the year and examined the demands submitted by them to the Central Medical War Committee for this period. In August each Service was requested to review its establishments and requirements and to submit a revised estimate, taking into consideration the economies effected as a result of recommendations put to them by us. These revised estimates were discussed with the Service representatives, and agreement was reached upon minimum requirements after considerable economies had been effected. The C.M.W.C. supplied in the three months July, August, and September to the Services a number of medical men which in October left a deficit to meet the needs of the three fighting Services for the last three months of the year of 1941.

We examined in detail reports of members of the committee who visited certain Service establishments and discussed this with the Service Departments. We also impressed upon these Departments the serious shortage of medical practitioners and the importance of adequate medical supervision for the civilian population. The Services appreciated the position. They again reconsidered their requirements and effected further economies. The R.A.F. accepted cuts amounting to about 37% on its original demands for the last six months of the year ; the Army so revised their estimates that they reduced their original demands to nearly 40% ; while the Navy accepted a cut of 50% on their requirements for the last three months of the year. We carefully considered these revised requirements and made recommendations regarding the number of doctors to be supplied for the last three months of 1941 to each of the fighting Services. Practically all of this number were supplied to the Services by the C.M.W.C. by the end of the year 1941 ; the deficit was made up in January, 1942.

Considerable economies have been effected in medical personnel by the three Services. As a result of co-operation between the War Office and the Air Ministry, which we recommended in our First Interim Report with a view to securing the pooling of medical officer services in the A.A. and Balloon Commands, there has been substantial economy in the Balloon Command. We feel, however, that still further effort should be made in this direction.

Indian Medical Services

We have heard evidence from representatives of the India Office regarding the supply of doctors for the I.M.S., and we asked the Central Medical War Committee to make every endeavour to supply a specified number of medical officers a month to meet the demands of this Service. Although it appeared that compulsory powers could not be exerted to compel doctors in this country to accept service in the I.M.S., we were informed that the Government of India had introduced certain liberal concessions regarding antedate, etc., for candidates in India, and it was hoped that the application of these concessions to candidates in this country would result in a satisfactory supply to meet India's needs. We realized, however, that if volunteers for the I.M.S. were not forthcoming it would be necessary to make up deficiencies in the supply of European doctors for the Army in India by the dispatch of an additional number of R.A.M.C. officers.

We were informed that difficulties had arisen in regard to the service of R.A.M.C. officers with formations of the Army in India because of the reduction of such officers, when serving outside India, to British rates of pay. We were of opinion that this policy stood in the way of the appointment of R.A.M.C. officers to posts normally filled by I.M.S. officers, but we understand that the policy has now been changed and that the War Office and India Office have reached agreement on the conditions under which the Army in India may draw to a larger extent than before on the R.A.M.C. for its supply of medical officers.

Emergency Medical Service

We have given consideration to the organization of the E.M.S. This service was designed primarily for ensuring prompt medical treatment for civilian air-raid casualties, but it was intended that it should be available also for the treatment of Service casualties, and also for ordinary sick civilians transferred from central institutions to safe areas. Its functions have since been extended to the treatment of evacuees, and to other categories of patients. Its main duty during quiet times has been the treatment of Service sick, Service accidents, and the ordinary civilian sick patients.

The primary function for which the service was set up still determined the nature of its organization, but we consider that the extent and basic principles of this organization should now be reviewed. The instructions issued to the Minister of Health and the Secretary of State for Scotland were to set up an organization capable of dealing with casualties resulting from intensive air raids on a large number of populous districts simultaneously. Efficient units (hospitals, first-aid posts, etc) had, therefore, to be set up throughout the country, and only to a limited extent was any attempt made to render the organization mobile. Mobile teams were formed, but little use was made of them. The difficulties of making a new appreciation to deal with so many unknown factors are obvious, and in the meantime you and the Secretary of State for Scotland have accepted our recommendation of a percentage cut on hospital staffs. We understand that these cuts are now being applied and relate to medical staffs enrolled in the E.M.S. as well as to those directly employed by the hospital authorities.

It should be possible, without running unjustifiable risks, to reduce many of the establishments, and even to close a number down altogether. In our First Interim Report we expressed the opinion that, to enable hospital staffs to be reduced with the minimum loss of efficiency, it was essential to have power to move those of the staffs employed on a whole-time basis (in A, B2, and B1 posts) from one hospital to another with greater freedom than at present exists, thus ensuring economy in personnel. There is also a considerable number of civilian mobile teams, but it appears from the evidence submitted to us that very few of these have in fact been used. Not only ought the whole-time staffs of all hospitals, civilian and Service, to be more mobile, but every endeavour should be made to secure the greatest degree of co-operation and interchangeability between the medical units of the civilian and the fighting Services.

For all these reasons we recommend the preparation of schemes within each Region embodying these principles of co-operation and mobility. We understand that your Department is working out a scheme to achieve this purpose.

Ambulance Trains

We have examined the organization for the evacuation of casualties by ambulance trains under the E.M.S. scheme. We are of the opinion that the use of whole-time medical practitioners for civilian ambulance trains in this connexion, even when these practitioners are unsuitable for service with the Forces, is an uneconomic use of medical man-power, and is not justifiable. Part-time medical officers carrying out other duties near the points at which trains are normally located should be used for this purpose.

Requirements of the Three Services and the I.M.S for First Quarter of 1942

We have considered and given our approval to figures showing the present estimated requirements of the three fighting Services and the I.M.S. and have forwarded to you our opinion on the numbers which should be supplied during the first quarter of 1942. These requirements imply a monthly rate of recruitment in excess of that which the C.M.W.C. can hope to arrange from the normal sources of supply. To meet these requirements we have submitted certain resolutions, which are set out in the Appendix. The substance of these is as follows: (1) A percentage reduction in the whole-time medical staffs of civilian hospitals other than mental hospitals. (2) A reduction of 100 in the medical staffs of mental hospitals. (3) A restriction for the time being to six months of the period of office of all holders of " A " posts in hospitals.

In the first of these resolutions we recommend that whole-time medical establishments of civilian hospitals should be reduced by a percentage cut. In the course of our investigations we had formed the impression that here there was scope for considerable economy in medical man-power. In view of the absence of statistical data upon which to base definite conclusions, we recommended, in our First Interim Report, that statistical returns of the medical establishments should be required from all civilian hospitals and medical institutions. These returns were duly obtained, and were placed at the disposal of our secretaries for tabulation.

Examination of many of the individual returns, and of statistical tables prepared from them, led us to form the opinion that: (1) Reduction of medical staffs is feasible in all types of hospitals. (2) London hospitals are more generously staffed in all categories than provincial hospitals. (3) A proportionately more drastic reduction is possible in the staffing of mental hospitals. These findings led us to consider various possible methods for effecting reductions in hospital staffs. Our ultimate conclusions were embodied in the resolutions, already referred to, which you and the Secretary of State for Scotland accepted and upon which action is being taken by the Departments.

Consideration of Other Sources of Supply

We have considered other sources of supply which we were advised might yield additional medical personnel for the Services, for example:

We carefully examined the possibility of employing alien doctors in hospitals and as assistants in general practice. We have satisfied ourselves that the majority of employable alien practitioners have already been absorbed into various appointments, and that it is unlikely that this source will assist further in our problem to any material extent. We have had before us figures showing the number of alien practitioners employed and unemployed.

The possibility of obtaining doctors from the United States of America and the Dominions was carefully explored. Surgeon Rear-Admiral Gordon-Taylor informed us that on a recent visit to the United States and to Canada he had discussed with the authorities concerned the possibility of a further supply for Britain of doctors from these countries. He thought that no further doctors would be forthcoming under the American Red Cross Scheme. He informed us that Canada might possibly make some further contributions. A number of doctors from the Royal Canadian Army Medical Corps have been seconded to the R.A.M.C., but we consider that no further practitioners are available from the Dominions, who have already heavy commitments for their own armed Forces as regards medical personnel.

The question of raising the age of conscription for the medical profession by five years above the normal age of recruitment of other sections of the population was examined. This has now been partly met by the recent National Service (No. 2) Act of Dec. 8, 1941, but some time must elapse before it will produce an effective supply. We hope that as a result of the proclamation all medical practitioners between 41 and 51 will be registered in one group at the earliest possible date. We regard the proclamation as an urgent matter. Our Chairman has written to you, and to the Minister of Labour and National Service, on this subject, and has also emphasized the importance of women doctors within the age group of 20-30 being made subject to the same compulsory procedure that now applies to male practitioners.

The Public Health Services and the School Medical Service have been scrutinized. We are of the opinion that there is a source of supply in these services, and have submitted to you and the Secretary of State for Scotland a separate resolution on this subject. (See Appendix.)

Other problems were brought to our notice, from the examination of which it was considered that further economies might be effected, increased use made of available medical man-power, or sources of supply augmented, e.g.:

(*a*) More transport for medical officers in charge of troops of all Services throughout the country would enable one medical officer to carry out more work than he can at present. We wish to call the attention of the Secretary of State for War to this recommendation so that an adequate number of cars may be made available for medical officers.

(*b*) The number of medical boards required by the Services for the examination and categorization of recruits was studied with a view to considering a reduction in their number and the saving of the time of a number of medical officers. We concluded that any contribution in the way of economy in medical personnel from this source would be negligible.

(*c*) We have also had before us a suggestion that certain E.M.S. hospitals might with advantage be transferred to the Army Medical authorities. It does not appear to us that any material economy of medical man-power will result from this proposal, but we are assured by the Medical Director-General of the Army that the transfer will not, in itself, lead to any increased demand for Army medical officers, and it appears that it will be of real value to the Services in providing improved training facilities and opportunities for clinical experience. Accordingly so far as the matter lies within our province we would like to commend the project.

General Conclusion

Our investigations have satisfied us that the Services are now fully alive to the limited resources available to meet their needs and those of the civilian population, and to the consequent necessity for the utmost economy in medical man-power. As a result of their co operation with us the call by the fighting Services on the resources of medical personnel during 1941 was substantially reduced. We hope that our recommendations for the saving of medical man-power in civilian hospitals, and the deliberations of the Regional Committees will help to solve our problem during the next six months. We are, however, convinced that continued vigilance in the economical use of medical man-power is necessary.

We are now examining the demands of the Services for the last nine months of 1942, and we hope to submit at a later date a separate report based on these demands and on the conclusions of the Regional Committees, and to make recommendations after receiving the comments of the various Departments concerned.

Appendix: Summary of Resolutions

Nov. 19, 1941.—(1) That the Minister of Health and Secretary of State for Scotland be advised to instruct the Central Medical War Committee to revert for the present to its original plan of calling up for military service A men in hospitals at the termination of their first six-months tenure of such posts and to call up forthwith the present male holders of the extended A posts subject to one month's notice being given to the hospitals. (2) That the Minister and the Secretary of State be advised to instruct the Board of Control and the General Board of Control for Scotland respectively that mental hospitals and institutions for the mentally deficient should reduce the existing strength of their staffs so as to provide by Jan. 21, 1942, 100 men of military age fit for service in the Forces. The names of the men to be released to be submitted to the Ministry of Health and Department of Health for Scotland for transmission to the C.M.W.C.

Dec. 3, 1941.—That the Minister of Health and the Secretary of State for Scotland be advised: (*a*) To instruct the Central Medical War Committee and the Scottish Medical War Committee to revise, in consultation with bodies responsible for hospital services, the medical establishments of civilian hospitals (other than mental hospitals) with a view to reducing the numbers of medical officers holding A, B2, and B1 posts, the aim being to reduce the all-over strength on Aug. 1, 1941, of whole-time medical officers in hospital by 10% in the Provinces and 15% in London (including Sectors), provided that the reduction in teaching hospitals should not exceed half the above percentages in the immediate future. (*b*) That the C.M.W.C. and the S.M.W.C. should be instructed to consider expediting as far as possible the placing of newly qualified medical men and women in hospital posts. (*c*) To instruct the C.M.W.C. and the S.M.W.C. to examine closely the number of young medical men engaged in pathological appointments and in research work with a view to the release of as many as possible for either special or general medical duty with the fighting Forces.

Jan. 7, 1942.—That the Minister of Health and the Secretary of State for Scotland be asked to consider further methods by which local authorities by closer co-operation or otherwise can release from their Public Health Services more medical officers of both sexes of military age for service with one of the armed Forces of the Crown.

MEDICAL SCHOOLS AFTER THREE YEARS OF WAR

ARRANGEMENTS FOR THE NEW SESSION

For the fourth year the winter session of the medical schools opens under war conditions, but arrangements are now better stabilized than they could possibly have been in the earlier period, and while many inconveniences attaching to dispersal remain, it can be said that the volume of teaching has not been lessened nor its standards lowered. The examination results have been good, but it is obvious that the number and perhaps the quality of the pre-medical students will be increasingly affected as the best boys leave their public schools and join up with one or other of the fighting Services. Some London medical schools are beginning to experience a small diminution in the numbers seeking admission for the commencement of medical studies, others declare the numbers to be stationary, and one school in the Provinces speaks of being inundated with applications for next session, particularly from women. The number applying there is said to be far in excess of the quota allowed.

So far as the pre-clinical subjects are concerned, several of the London schools, after three years' experience in the Provinces, are returning to London. In October King's College Medical Faculty will come back to its old buildings in the Strand, and pre-clinical subjects will be taken there for the students not only of King's College Hospital but of Charing

Cross, St. George's, and Westminster. Middlesex, too, has decided that its pre-clinical students shall return to London from Leeds, where they have been accommodated for two years. The pre-clinical schools of the London Hospital and of St. Bartholomew's are to remain at Cambridge. St. Thomas's pre-clinical and pre-medical studies are still centred at Godalming, where laboratories and class-rooms have been constructed, and the generous co-operation of the headmaster and governing body of Charterhouse School is available. The first-year students of St. Mary's continue to be the guests of Berkhamsted School, and those of the London School of Medicine for Women remain at Exeter for the present.

The London Schools

The final-year students of St. Thomas's have just left their quarters at Guildford and have returned to the hospital in London, where an increased number of beds have been opened and out-patient teaching has been restored almost to pre-war standard. A sufficient part of the school library has also been moved back to London. Outside London, at Godalming, a full department of pathology has been installed in a specially leased house. The main medical school library has been accommodated at Hydestile, where lecture rooms and full students' amenities have also been provided. Following their preliminary six months, the clinical students spend two periods, each of six months, attached to medical and surgical firms at Hydestile, and these are followed by six months' midwifery, gynaecology, and paediatrics. The facilities for teaching midwifery are considerably better than in several of the pre-war years in London.

St. George's Hospital Medical School has also returned to the metropolis. Since May last the students have done the whole of their work at the hospital at Hyde Park Corner, with the exception of midwifery, which continues to be taken, through the courtesy of the Middlesex County Council, at the West Middlesex Hospital. During the past year the number of in-patients and out-patients at St. George's has steadily increased and clinical material has been abundant. Should less happy conditions recur, the hospital has re-equipped its convalescent branch at Wimbledon on modern lines, and the medical school has rented and equipped a large country house immediately adjacent to serve for emergency purposes. But unless dispersal again becomes necessary, it is intended that the school shall remain at Hyde Park Corner, with the country establishment as an annexe.

The clinical school of Charing Cross is still evacuated from London, at Boxmoor in Hertfordshire. The whole of the first clinical year's work is done at Ashridge Hospital (1,200 beds). During the second clinical year clerkships and dresserships are served in all the special departments, and for this work the facilities of the parent hospital at Charing Cross, as well as those of Ashridge, Stanmore, Edgware (midwifery), and others, are utilized. In the second and third clinical years students are posted by rota to Charing Cross and Ashridge for residence as emergency dressers. As a wartime modification the removal to Boxmoor has worked well, and residence at Chaulden House for sixty students has provided the advantages of a corporate life, but the difficulties, especially the consumption of time by the staff in having to travel out of London to teach, will not grow less, and the extended use of the school in London for the instruction of senior students is being considered.

St. Mary's is fortunate in that both school and hospital buildings remain undamaged. Nevertheless, some dispersal of students is maintained. Students in their clinical years continue to hold posts in four other sector hospitals in addition to St. Mary's, but it is at St. Mary's that the whole of the second M.B. course and the latter part of the clinical teaching is now taken. Consequently the student has at one time the opportunity of seeing a wealth and variety of clinical material in the sector and at another of participating in organized student life at the parent hospital. The large number of resident posts made available by the E.M.S. in the sector continue to provide house appointments for all students on qualification. One feature of the past year has been the large attendance—an average of 130—at the meetings of the Medical Society.

The medical school of the London Hospital, apart from its pre-clinical school at Cambridge, is now organized at three centres: the London Hospital Annexe and Warley Woods Hospital at Brentwood (542 beds), Chase Farm Hospital at Enfield (925 beds), and the London Hospital itself in Whitechapel (416 beds), together with neighbouring London County Council hospitals comprising 2,500 beds. Students starting clinical work are sent to Brentwood for the first twelve months, where they have an introductory course in medicine and surgery and carry out six months' clerking and six months' dressing. They are then sent to Enfield for a three-months course in pathology and similar courses in neurology and orthopaedic surgery, after which they are posted either to the London Hospital, the maternity unit in Hitchin, or other associated hospitals for practical experience in obstetrics. Finally they come to the London Hospital as senior students for further clerking and dressing in the wards and work in the out-patient departments. Lectures are given at Brentwood in applied physiology, elementary medicine, surgery, and pathology for junior students; at Enfield in pathology, morbid anatomy, bacteriology, biochemistry, midwifery, and gynaecology; and at the London Hospital the final systematic lectures in surgery, medicine, public health, medical jurisprudence, and therapeutics for senior students.

No Change

Most of the other London schools have no changes to report so far as the instruction of clinical students is concerned, and the arrangements set out in the article in the *British Medical Journal* of Sept. 6, 1941 (p. 345), remain unaltered. This is true of Westminster, King's College, University College, and the London (Royal Free Hospital) School of Medicine for Women. Middlesex Hospital has not found it necessary to make any major alteration in the distribution of students during the clinical years. The increasing need to supply the fighting Services with the younger qualified men has not simplified the task of the school in arranging the teaching in the sector hospitals, but the standard of teaching has been maintained, thanks very largely to the co-operation of the Middlesex and Buckinghamshire County Councils and the Board of Governors of Mount Vernon Hospital. The association with the Royal Hospital, Wolverhampton, which began in 1940 has also developed most satisfactorily. At Guy's and St. Bartholomew's there are no striking changes to report. The clinical students of St. Bartholomew's are distributed at Bart's itself, Friern Emergency Hospital, Hill End Hospital, and Cell Barnes Hospital. The main improvement during the year has been the establishment of a first-class pre-clinical medical course under the professors of medicine, surgery, and pathology at Hill End Hospital; also the introduction of a new tutorial class in pathology at the same hospital for final-year students.

Postgraduate teaching in London at the British Postgraduate Medical School, Shepherd's Bush, is continued on pre-war lines, with bedside tuition and lectures rather than specific courses, though special courses on war medicine and surgery and other subjects have been held in alternate weeks. A number of undergraduate students have been accepted at the request of the deans of their respective schools, and a limited number of refugee graduates have been accepted to enable them to put in the necessary hospital practice to take British qualifications. In addition the obstetrics department is providing facilities to enable a limited number of undergraduates to comply with the University of London's requirements in obstetrics and gynaecology.

Provincial and Scottish Schools

In the provincial schools there have been still fewer changes. At the University of Manchester various small curriculum alterations have taken place. With a view to facilitating earlier qualification and of affording wider hospital experience, senior students have been employed as temporary officers under direction at local hospitals. The Board of the Faculty of Medicine has recently passed a resolution whereby students during the war period, having completed all appointments, may apply to sit for Part II of the Final M.B., Ch.B. examination (qualifying) after thirty months' clinical work. At Leeds, again, the Board has decided to accept the recommendation of the Ministry of Health and to shorten the clinical period of study from 36 to 30 months, as a temporary emergency measure. Steps are being taken to introduce the shortened course next month. Students who would normally take their degree in

March, 1944, will be able to take their final examination in September, 1943.

One innovation at Sheffield is of interest. All students entering the university next session must undergo a thorough clinical examination, for which the university pays. Heretofore such an examination on entry has been offered on a voluntary basis, but the response has been poor. In the case of medical and dental students the physical investigation will include *x*-ray examination of the student's chest and a Mantoux test. A further *x*-ray examination is made before beginning clinical work, and again two years later.

At Bristol, instead of candidates taking the second M.B., Ch.B. examination in anatomy, physiology, elementary pathology, and elementary pharmacology six terms after completing the first examination, they will sit for anatomy and physiology after five terms of professional study—that is, in March—and will take the examination in elementary pathology and elementary pharmacology one term later—that is, in June. The whole examination must, as hitherto, be passed before students may begin hospital practice. In Birmingham no changes are contemplated for the new session. In Cardiff the raid damage to the Royal Infirmary has been considerably repaired and about 220 patients can now be taken in. The medical and surgical units, with rather more than 100 beds, still remain at the Whitchurch Emergency Hospital, and the convalescent home is still maintained as a full service hospital. The travelling of students has been well arranged, and the time-table of attendances has been altered so as not to interfere with tuition. The clinical school at the Welsh National School of Medicine has its full number of students, and the applications for admission to pre-clinical studies pursued at University College, Cardiff, are very large, so that selection has to be made. Altogether the medical students in Cardiff number about 350. The new Pathology Institute is proving of great value in teaching. Clinical pathology is made a feature of sixth-year study.

In the Scottish universities certain important changes in the curriculum have been made at Aberdeen and at Edinburgh. At Aberdeen, to enable students to graduate within five years, a fourth term is being held during the summer vacation for students who finished their fourth year in June, 1942. At Edinburgh the subject of psychiatry has been introduced into the final professional examination. The examination, consisting of a two-hours written paper and an oral, will be held at the end of the spring term—that is, in March—of the fourth year of the medical curriculum. At Glasgow, on the whole, it has been possible to continue medical teaching on normal lines. Patients in teaching hospitals are somewhat fewer, so that teaching facilities have to be slightly reduced, but it has not been necessary to discontinue any special courses. The main hospitals are undamaged and the routine of the students is not substantially altered. At present there are 1,070 students in the medical school, of whom about one-fifth are women.

The increased emphasis on the aspects of preventive social and industrial medicine and the shortening of the time devoted to the clinical period are creating some difficulties for the schools, but so many difficulties have been overcome during these last three years that the outside observer has come to believe—even if those concerned in the administration do not quite believe it themselves—that the schools are equal to all trials and emergencies.

Changes made in the organization of the British Hospitals Association, states the report of council for 1941, include a strengthening of area committees, alteration where necessary of area boundaries, and the setting up of a new area organization for South Wales. They are preliminary to a reconstitution of the council and amendment of the articles of association consequent on the decision to admit convalescent homes, sanatoria, and mental hospitals to membership. During the year an advisory committee on nursing matters was formed; also a subcommittee on hospital and contributory scheme income limits. Other items to which the association gave time and thought during a busy year were the salaries of hospital staff other than nurses; hospital staffing problems created by the demands of the Services and the Ministry of Labour; the supply of deep *x*-ray apparatus; the teaching hospitals committee set up by the Ministry of Health; and last, but by no means least, soap rationing as it affects hospitals.

Correspondence

Lister Technique for Emergency Surgery

SIR,—Under certain circumstances as a result of enemy action surgical operations may be required to be done under adverse conditions. The advanced highly skilled surgical technique in strict aseptic surroundings with an abundance of sterilized equipment (dressings, instruments, water, etc.) may have no place where war conditions have temporarily abolished such amenities.

The practical application of the Lister technique is probably unknown to the majority of the younger generation of surgeons, for they have never carried it out. There is some ridiculous idea extant that if any antiseptic—e.g., carbolic acid—should "soil" a wound, either by mops, surgical instruments, etc., tissue necrosis and wound infection *must* follow. Like so many surgeons of my generation I have successfully done a large number of major surgical operations in cottages, using the kitchen table for the operation, with towels around the wound area wrung out in carbolic solution 1 in 40, instruments out of the same solution, boiled mops out of normal saline or 1 in 10,000 hydrarg. perchlor. solution, with a paraffin lamp for the illuminant.

As improvisation may at any time be required I would plead for an immediate revival of the Listerian technique. This could be done by practical demonstrations at operations in surgical centres, also by carrying out the technique at all hospitals, including the E.M.S. ones. Further, in these days of rubber-glove shortage, surgical operations may have to be done with bare hands. Operations were done in the pre-glove era with equal success when compared with the present-day glove epoch. It may be that some surgeons and nurses will require to relearn the art of getting their hands surgically clean. The use of gloves, so long as they remain unperforated, excuses shortcomings in inadequate scrubbing up.—I am, etc.,

Newcastle-upon-Tyne. R. J. WILLAN, F.R.C.S.

Pernicious Anaemia

SIR,—I was glad to read the plea of Prof. L. J. Witts (Aug. 22, p. 227) for better supervision of patients with pernicious anaemia. But I would disagree with him when he attributes so much of the blame to the patients themselves for neglecting treatment when they feel themselves cured. In my opinion the unsatisfactory state of affairs which exists at present is largely due to ignorance on the part of some practitioners of the elementary principles of treatment of pernicious anaemia. They frequently reduce maintenance treatment to grossly insufficient amounts, and, indeed, sometimes tell their patients that it is unnecessary so long as they feel well. It is clear that the danger of the development of subacute combined degeneration is insufficiently appreciated.

Because of this experience I have made it a practice to explain carefully to patients before they are discharged from hospital or the out-patient clinic the necessity for continuing treatment for the rest of their lives, and I believe that very few patients will neglect treatment if they understand the position clearly. I feel convinced that the death rate from pernicious anaemia would show a sharp fall if all practitioners realized the importance of maintenance treatment in sufficient amounts. Because this treatment should be controlled by periodic blood examinations special clinics are obviously desirable, and I welcome the attention which Prof. Witts has drawn to this aspect of medical planning.—I am, etc.,

Aberdeen. HAROLD W. FULLERTON.

Anaemia in X-ray Workers

SIR,—The Hospital Officer Memorandum No. 3/25 recently circulated by the E.M.S. to Class 1A and 1B hospitals (*Journal*, Aug. 1, p. 137) is, in my opinion, a dangerous document. The facts to which it refers are doubtless accurate, but the memorandum is apt to be misleading. Admittedly anaemia is not recognized as a specific effect of radiation, but it is wrong

"in order to allay uneasiness and to afford guidance" to issue a memorandum which states this fact at some length and devotes only one-tenth of its space to a brief mention of the changes that do occur as a result of radiation.

The experience of the big London hospital *x*-ray departments with adequate space and protection and under close medical direction is certainly not an adequate guide to the possible experience of an E.M.S. hospital department unless the latter follows all the recommendations of the International Committee on *X*-ray Protection. The statement that "periodic blood examinations are advisable . . . as a reassurance to radiographers" is an inglorious understatement of what is considered necessary by radiologists with knowledge of radiographers who have had to leave *x*-ray work because of a white cell count which indicates damage by *x* rays. The final sentence that "the term '*x*-ray anaemia' has no particular meaning and should be avoided" is true, but again implies that there is no danger from radiation.

The authors of the memorandum are to be congratulated on the skill with which it has been compiled. To doctors and lay officers without special knowledge and experience of radiation and its effects on the blood it is a convincing document which implies that the dangers of radiation to *x*-ray workers have been over-stated, and, in fact, are practically non-existent. To those with special knowledge it presents a series of statements which are probably incontrovertible, but the emphasis is false. The dangers of radiation, the signs of its effects (leucopenia, monocytosis, granulocytopenia), the danger to the skin and gonads, and the necessity for adequate protection should have been stressed, since otherwise the radiographer and those responsible for his or her health will follow even more readily the regrettable tendency to slacken rather than enhance precautions. *X*-ray anaemia probably does not occur but while blood cell changes do occur in the *x*-ray worker inadequately protected. A true document with a false emphasis such as this is dangerous, because, while it cannot be contradicted, it causes hospital boards and administrators to relax essential precautions.—I am, etc.,

F. ELLIS.
Medical Director, Sheffield Radium Centre

Hyperostosis Frontalis Interna

SIR,—Dr. C. T. Andrews's excellent and detailed report of a case of hyperostosis frontalis interna (Aug. 15, p. 185) prompts me to add two observations, one historical and the other clinical.

There is an interesting early reference to hyperostosis frontalis interna in an address on "Tic Douloureux" which was read at an evening meeting of the Royal College of Physicians of London 120 years ago by its president, Sir Henry Halford, and later included in his collected *Essays and Orations*. He relates, among others, the case of Dr. P., whose skull showed at necropsy "an unusual thickness of the os frontis, where it had been sawn through above the frontal sinuses, and at its juncture with the parietal bones. . . . Dr. P. had submitted with great patience to a division of several branches of the fifth pair of nerves, under the judicious operation of Sir Astley Cooper, who, on my mentioning to him the notion I entertained of the cause of tic douloureux, was so obliging as to show me the skull of a person who had died of this disease in the country. The internal surfaces of the frontal bone is a perfect rock-work." A third case, he notes, is of a lady who for 10 years had suffered "the tortures and the dreadful 'clawings and scratchings'" of a right tic douloureux. She had "an enormous thickening of the frontal, ethmoidal, and spenoidal bones in one part to the extent of half an inch; and the anterior lobes of the brain were curiously moulded and indented by the thickened bone. There was thickening also of the whole of the cranium, but not so great a degree anywhere as in the parts which have just been named."

It is curious that Sir Henry Halford should have met three cases of tic douloureux associated with a thickening of the skull whose description is consistent with hyperostosis frontalis interna. Though he conjectured that the osseous enlargement "injured directly, and at once, the affected nerves," he recognized that "there are other cases in which no such immediate cause of irritation can be discovered." The association must be rare. Six years ago I described 8 cases of hyperostosis frontalis interna before the Association of British Neurologists and I have since seen several others. None was associated with tic douloureux, though two had cranial nerve palsies. In one of these with a "jugular foramen syndrome" there was found after death a plaque of bone extending over and compressing the nerves passing through the foramen. Only 22 (approximately 1 in 10) of my cases of tic douloureux have had *x*-ray examination of the skull. None has shown significant hyperostosis.

Many cases of hyperostosis frontalis interna are symptomless and discovered accidentally. In patients complaining of chronic headache routine skull radiographs will sometimes reveal not only hyperostosis but occasionally other rare lesions—e.g., extensive calcification of the falx cerebri. In one of my cases a cerebral tumour was coexistent; its presence was suggested by a hemiparesis with papilloedema, and confirmed by ventriculography and subsequent operation.

Thus hyperostosis frontalis interna may give: (1) no symptoms; (2) chronic dull frontal ache; or (3) focal symptoms associated with local compression by bony bosses or plaques —namely, (*a*) the hypothalamic–pituitary group (adiposity, diabetes insipidus, sleep disorders, etc.); (*b*) progressive dementia; and (*c*) cranial nerve palsies. This suggests that the hypothalamic–pituitary disturbances are the *consequence* and not, as some have held, the *cause* of hyperostosis frontalis interna. Of its significant cause, or causes, we are quite ignorant. —I am, etc.,

Liverpool. HENRY COHEN.

Tuberculin Patch Test

SIR,—In your leading article (July 25, p. 101) you show how in differential diagnosis help can be obtained from a tuberculin test because a negative reaction *excludes* tuberculosis, hence its greater value in children than in adults. These points cannot be stressed enough. But tuberculous infection cannot be excluded unless the test is complete—i.e., unless it is ultimately carried out intradermally with O.T. or P.P.D. 1 in 100. In a large series of cases a higher tuberculin sensitivity may be found among those with active tuberculous lesions than among those with latent or healed lesions, but it cannot be assumed in the individual doubtful case that a test positive to a high dilution indicates active disease, or that a test negative to such a dilution excludes active disease. You recognize this, and advise that a negative patch test should be followed by a Mantoux test with 1 in 100 tuberculin. But you then state: ". . . and when the practitioner can be satisfied that he has at his disposal a standardized uniform 'patch,' the test will probably prove of considerable value to anyone who is impelled by the exigencies of practice to sacrifice the greater accuracy of the Mantoux test to the convenience of the patch test." And again: "If the Mantoux test is not being as much used in general practice as it should be—and evidence points that way—the use of a properly standardized patch test will be preferable to no test at all." Are these statements compatible with the clear factual data given in the remainder of the leading article? You do not yourself seem quite happy about it, for you attempt to square your conscience by insisting on a "properly standardized" patch. But is not this asking for the impossible? We find it difficult to understand how "proper standardization" can be obtained of a test that involves several factors which may influence the dosage of tuberculin yet cannot accurately be controlled; for instance, degreasing, texture of skin, application of strip, etc.

There are two other points which should be mentioned. You quote several investigations in which the patch test is compared with the Mantoux test, and point to the fairly close similarity of results. But it is well to bear in mind that when such *ad hoc* investigation is done, greater care and supervision are probably exercised in the carrying out and reading of the patch test than might be the case when it is used in routine clinical practice. The second point is this. Your leader is apparently intended for general practitioners and physicians, but the tuberculin test is of paramount value in the follow-up of children as home-contacts in tuberculosis clinics. There many children are first seen before they are infected, and are then tuberculin tested periodically in order that the primary infection may be detected at its onset. It would clearly not be possible to dogmatize about the onset of a primary tuberculous infection

unless the tuberculin test carried out a few weeks or months before had been complete.

The patch test is not used in epidemiological investigations from which reliable conclusions are sought. Apart from this, the test undoubtedly has, in certain circumstances, advantages of convenience, but it cannot be regarded as more than a preliminary step in tuberculin testing whatever advertising blurbs may state about it.—We are, etc.,

DONALD COURT.
Staines. G. GREGORY KAYNE.

Ileostomy for Ulcerative Colitis

SIR,—It is not within my province to argue the pros and cons of this question, but it is possible that with the introduction of specific treatment the urgent need for this serious operation may no longer be necessary for ulcerative colitis. I am, however, quite convinced that if there is one form for which ileostomy is absolutely contraindicated that is amoebic dysentery. The statement that Mr. McNeill Love had undertaken it for that disease in 1917 may induce others to do so. We fortunately possess most potent specific remedies for amoebiasis, and experience in its treatment has led to the conviction that surgery of the intestinal tract is seldom, if ever, necessary. The impression I have formed is that the conditions which produced this emergency in Mesopotamia in 1917 were due to bacillary dysentery and not to the more chronic amoebic form, as there existed some confusion in differential diagnosis at that time.—I am, etc.,

London, W.1. PHILIP MANSON-BAHR.

Medical Planning

SIR,—Dr. J. E. Gaze's letter (Aug. 15, p. 200) is interesting because it reveals an attitude which, in my experience, is not often found among the older members of the profession. I have been qualified for 10 years only, but during that time have done hospital appointments, "locums" in town, country, and prison, "put up a plate" in Suburbia, built up a practice, and joined the R.A.M.C. (T.A.) and been invalided out. I have also had the opportunity of observing my fellow men on the Harrow B.M.A. committee and on its subcommittee when we met the public health committee of the local council. Now, after prolonged treatment and convalescence and a period of manual work in the countryside, I am in the happy position of being able to look back from afar upon my professional contacts and experiences.

I have in the past longed for a medical plan, be it pure State medicine, health centres, or what you will, if only the result would mean: (*a*) an efficient treatment of the patient be he rich or poor, including, of course, prevention as well as cure; (*b*) an elimination of "business methods" in practice, even including the abolition of "goodwill," which seems wrong to me, perhaps because now I have little or no practice to sell; (*c*) an opportunity for every doctor to have a reasonable amount of leisure and holidays in order to keep himself mentally and physically fit, with a free period each year for postgraduate study, and access to a hospital; (*d*) the maintenance of the "family" doctor and of free choice for the patient; (*e*) a reasonable and ensured income; (*f*) suitable provision for illness and old age.

All of us upon qualification set forth with high ideals. Some accomplished the climb and have risen to well-deserved altitudes. Most of us, however, seeking in general practice an opportunity to preserve our independence, found that soon we were up against the hard facts of life. In practising medicine and at the same time earning a living we had to battle with the monetary-minded among patients and colleagues, sending out bills, recovering from a feeling of nausea at the jealousy, self-interest, and the "rackets" one sometimes met, paying rates to the local authority and thus helping to provide public health services which were cutting our own throats, and so on. There were many compensations, but it became increasingly evident that something was wrong with medicine somewhere.

If we have the courage openly to admit this let us all now seize the opportunity that these times offer to put matters right. Those with a practice which under present "goodwill" valuation is a lucrative one will expect compensation if things are altered, and perhaps a reasonable compensation will be paid—by whom and how, I will not even hazard a guess. If, however, none is forthcoming, let not those doctors break their hearts. There are many who have already given their lives. There will be more. There are many who are now prisoners of war, while the large majority of all those who have joined the Forces, whether as volunteers or conscripts, have suffered considerable financial loss. Those who now remain in civil practice and who are concerned in planning the future of medicine no doubt realize their responsibility is a great one. They would do well to consult their colleagues in the Forces, who will be busy, when demobilization comes, searching for the practices they left behind. And it will be the bounden duty of those who promised to look after them to help in rediscovering them.

The present muddle and overlapping in medicine can be ended, and need not necessarily be replaced by a bureaucratic nightmare of red tape, if only the members of the profession will maintain their dignity and cast aside the tendency to look upon the problem with more than one eye upon its financial aspect. The family doctor, with his intimate knowledge of the patient's home life, must be able to continue this psychological link with those he is called upon to treat. He must also be allowed to retain his individuality rather than be regimented and submerged by rules and regulations.

My considered opinion is that in our profession we shall never succeed in persuading the "stick-in-the muds" to move. I hope, however, that we can plan a State Medical Service which will contain all that is best in our present system. I trust that if pure State medicine comes, State education will accompany it.

The Medical Planning Commission has made an admirable start. It deserves our thanks and it is the duty of each one of us to give all the help and advice we can, for the problem concerns us all, whether we are old or young, specialists, family doctors, hospital officers, public health officials, or those who are now serving in the Forces. Their voice is well worth hearing, for they have had experience in civil practice, have sacrificed much, and are now experiencing some of the snags one would expect to find in a State Medical Service.—I am, etc.,

Bradworthy, Devon. C. G. JONES.

SIR,—Recently in your correspondence columns and at meetings here it has been urged that no major change in the conditions of medical practice should take place until the men now in the Services have returned to civilian life and have had an opportunity of expressing their opinions. This is a point of view with which we must all have the greatest sympathy, though, to judge by the almost complete lack of response to the numerous invitations sent to R.A.M.C. officers serving in this area to attend our discussions on medical planning, it would appear that even those still on home service are too fully occupied to be able to give consideration to these problems.

At a recent meeting here it was suggested that the profession should unitedly refuse to work any new scheme until the men in the Services can take part in its arrangement. Since it may be 3 years after the conclusion of hostilities before demobilization is completed, and since a further 3 years would have to elapse before the majority of the younger men could have had sufficient experience of civilian practice to be able to express an informed opinion, this seems to me to be an extreme point of view.

In support of this attitude it is often stated that "the last time" the position of men in the Forces was prejudiced by changes which took place during and immediately after the war in the conditions of practice generally. For the information of those who are too young to remember conditions at that time can anyone say what these changes were, and in what way they were prejudicial to the position of those who had been in the Services as compared with those who had remained in civilian practice? Of course one realizes that there must have been periods of individual unemployment after demobilization, but was this actually greater in medicine than in other professions?

It would seem that the answers to these questions would have some relevance when the optimum time for the inauguration of any new plan is under consideration.—I am, etc.,

Stirling. W. LESLIE CUTHBERT.

Future Medical Service

SIR,—I have read a great many letters on the future of medicine and have frequently discussed it with other practitioners and lay men and women. The letter of Dr. Vallely (Aug. 8, p. 168) crystallizes a point of view held by many of our profession. It seems a competent, clear, and reasonable point of view, and yet I am sure it is quite wrong. It is just as wrong as the idea that State medicine in itself is the first step to the millennium.

When a number of intelligent people disagree on a fundamental issue, the reason is nearly always found to be a lack of definition of the problem. If the facts are not known or not clearly explained the field is left open for the theorist, the dogmatist, and the fanatic. For example, Dr. Vallely says "a whole-time salaried service would be wholly bad for the profession and the public," and "the lay press teems with evidence of the extravagance and inadequacy of State control." That is Dr. Vallely's theory, but here are some facts.

The Government distributes £75 million in unemployment benefits and allowances at a cost of £7½ million a year; £87 million in orphans' and old age pensions at £2½ million. On the other hand the approved societies distribute £33 million in N.H.I. benefits at a cost of £6 million, while the insurance companies distribute burial, life, and sickness benefits amounting to £33½ million at a cost of £22 million, plus a shareholders' surplus of nearly £2 million a year. (I quote from the P E P broadsheet on Social Security, July 14, 1942—a magnificent compilation of facts.) In this connexion "the extravagance and inadequacy of State control" is not obvious, to say the least.

Yet I agree about the "stultifying" and "soul-destroying" effect of Governmental bureaucracy, and this leads to the next argument which is in urgent need of clarification. Those who argue against State medicine make the point that the concomitant bureaucracy will be a "tyranny," "an evil thing," "a cause of frustration," and they assume that all bureaucracies must be bad. Surely that is untrue. The fact that a bureaucracy is necessary to administer any large concern is neither good nor bad in itself. It is merely a fact. But the *type* of bureaucracy can be good or bad. Many of the big business combines are run by most efficient bureaucracies: at times too efficient for my way of thinking. These one can call good, just as the bureaucracies of the Government are inefficient in many ways and can be called bad. So State medicine will be "stultifying" only if it is run by a bad bureaucracy. As the word "bureaucracy" is so prejudiced by use it will be wise to substitute "administration."

Now there is no need for bad administrations to continue. We must take what is good in the Ministry of Health and preserve its rule-of-thumb organization of statistics, routine, and so on, for it does that part well. But the art of medicine and the organization of practitioner and hospital services for the ever-changing needs of the community can and must only be run by active members of our own profession; and this must be one of the foundation stones of any State medical service. Our one aim must be to provide the best possible service, and we must eschew the evil which damns our Civil Service—the fact that promotion goes to those who make fewest mistakes (and consequently fewest decisions) and those showing initiative are frowned upon and penalized. It is imperative for our future welfare that we let no defeatist attitude stand in our way. We cannot accept the present administration of medicine as a good thing. We must decide exactly what we want and see that we get it. My experience is that if one knows what one wants and has faith and energy then that objective is attainable.

There is one more point to make. Dr. Vallely says that a whole-time salaried medical service is not inevitable. Does he realize that the Ministry of Health has a scheme to bring the dependants of the present insured persons under the N.H.I. Act, and that then 90% of the community will be on the panel? Surely that all but fixes the salaries of the majority of practitioners, and the N.H.I. scheme becomes an elaborate mechanism for excluding 10% of the community from what the supporters of an extended N.H.I. scheme consider the best possible service. If Dr. Vallely likes the idea of being a salaried practitioner under the present Ministry of Health, he has only to wait and nothing to worry about. But if not, it is an urgent necessity to agree upon a better scheme and stand up for it with all the power at our command. Agreement will only come with increased knowledge, and I know of no better starting point than the broadsheet from which I have quoted.—I am, etc.,

Leeds. R. A. MURRAY SCOTT.

Salaried Service and Competition

SIR,—Several writers recently have stressed the value of competition in keeping up a doctor's keenness for his work. If success in this competition was determined primarily by clinical ability and conscientiousness such competition would be of great value to the cause of better medicine. Unfortunately, competition in general practice has degenerated into one for popularity primarily, and the doctor who attempts to educate and discipline his patients reaps a poorer harvest than the humbug and romanticist who liberally distributes placebos and habit-forming drugs.

In my view a salaried service on "public health" lines, which would eliminate the element of profit from sickness and encourage that most valuable kind of medical work, preventive medicine, would be a great and revolutionary step forward so far as general practice is concerned. I know that there are evils attendant on bureaucracy, but they are likely to be less serious, in my view, than those fostered by the present system.—I am, etc.,

Wallasey. LENNOX JOHNSTON.

Maternity Service of the Future

SIR,—It was good to read the letter of Dr. G. Winn Everett and her friends (Aug. 1, p. 143). We have in Scotland in essence the system there advocated. The general practitioner and midwife carry out as a minimum three ante-natal examinations; in the majority of cases they carry out the actual confinement and post-natal visits, the latter concluded by a very detailed examination of mother and child, a full report of which is submitted to the medical officer of health. We have the right, where our ante-natal examination justifies it, to obtain, without cost to the patient, expert obstetrical opinion, and also the right in emergency to obtain free expert obstetrical assistance. In certain cases, with the consent of the M.O.H., we can send our cases to hospital, and the cost to the patient depends upon her means. This latter is the only snag. Such cases should be admitted to hospital free of all cost to the patient. Detailed reports of all ante-natal examinations, of the confinement, and of our post-natal visits are also sent to the M.O.H.. To my mind our system is ideal for all concerned if each member of the team does his or her duty conscientiously, and two years' working under the scheme has been eminently satisfactory.

The essentials of obstetrics are not difficult to acquire, and were the feeding of our children and the housing, feeding, and working hours of our young adults in accordance with what is just and right and common sense, obstetrics would offer few emergencies beyond the capacity of the average conscientious general practitioner to tackle with success. Far too much is made by the "Munro Kerr school" and "official opinion" of our difficulties and of the success of the public ante-natal clinics and the large maternity hospitals. We have many women from these hospitals at the present time in this area. From what I have seen I would blush were they patients of mine.

To the women of this area our obstetrical specialist, Dr. Thomas N. Macgregor, has been an inestimable boon. Few as they are, obstetrical emergencies can be very terrible, and practising so far from a centre as we do, one feels very much alone, and such cases place upon our shoulders a strain that is almost unbearable. We had to manage in the old days, but now our specialist is a guide and a help whose assistance to our women is beyond words of description. We learn more in discussing our cases with him than we would from many postgraduate courses. I doubt if the latter are of any value.

Without obstetrics the life of the rural practitioner would not be worth while. Obstetrics binds us to the homes of our people, to our women, their children and grandchildren in a way that, in spite of our anxieties, makes life in the practice of medicine, of all lives, the finest to live. Our work is hard and financially of little attraction if that is the main aim of life.

but otherwise, when we are near the end and look back we feel that we have justified the right to live; in spite of our failings we have won the affection and esteem of hundreds of our women, because, however poor the home, our care during pregnancy, at childbirth, and post-natally, and the bond created between us have made these "homes" in the truest sense of that word.—I am, etc.,

Tain. E. K. MACKENZIE.

SIR,—The letter of Drs. G. Winn Everett, E. A. Wilson, R. C. B. Ramsay, and S. A. Scorer (Aug. 1, p. 143) on maternity service of the future will meet with general approval because it promises greater security and better hospital accommodation for mothers. I would submit that there is one major fault in the present maternity services which is in no way corrected in the new proposals—namely, the relief of pain.

I am at present unable to obtain access to the literature, but I believe I am right in saying that of the 600,000 births occurring annually in this country more than 75% are attended wholely by midwives, and, consequently, the mother receives no form of anaesthesia. Of the cases attended by doctors, only the fortunate who can afford a specialist's fee get real relief; the remainder are grateful for a whiff of chloroform towards the end of the second stage. There are, I believe, two reasons for this: (1) inadequacy of fees, and (2) modern teaching in anaesthetics.

(1) An average fee for a working-class patient is in the region of 5 guineas. For this the general practitioner is expected to undertake ante-natal care, a day at least of worry and interruption of his normal work during the confinement, and post-natal visits. Yet the same family will willingly pay 15 guineas for the removal of tonsils and adenoids from their small son, an operation performed in half an hour and comparatively safe when compared with the lurking dangers of childbirth. (2) The young practitioner is imbued with a terror of chloroform, yet this is probably the only anaesthetic available to the general practitioner which is capable of giving adequate relief in labour.

In conclusion I would urge that the maternity service of the future should have as its ideal that every confinement should be attended by a doctor, adequate remuneration being assured by the State. Alternatively, the status of midwives should be improved to encourage more to enter the service, the training should be extended to include anaesthetics, and, finally, midwives should work in pairs, one acting as anaesthetist.—I am, etc.,

E. R. HARGREAVES,
Major, R.A.M.C.

Narco-analysis in Treatment of War Neuroses

SIR,—Having been working as a colleague of Dr. J. L. Clegg's for approximately the same length of time, I was interested in his objections to pentothal narco-analysis (Aug. 1, p. 140), and would like to mention one or two points which I have briefly discussed with him.

I would agree in the main that it is by no means a royal road to the unconscious, and must be regarded as a short cut, but I would still value it as such. It appears to me that different methods such as narco-analysis, and shock treatment too, may lay open different portals of the mind, or strike it at different levels; and, apart from the material so obtained, may have effects of which we are largely ignorant but which may nevertheless have curative value. In a recent case of anxiety hysteria I tried giving pentothal while the man was already under hypnosis, and the difference in reaction was striking: he immediately became more emotional, as though responding from a; one might say, subthalamic level.

In cases of massive amnesia, where hypnosis has failed, pentothal has given me results which would otherwise have taken many weeks. I have also found it of use in confirming one's impressions of the personality type; the character traits are shown up in an exaggerated light, particularly the inflated egoistic types, and the patient is the more convinced out of his own mouth. This is, of course, analogous to the verity induced by alcohol, the effect being more like that of large cocktails than the mellower one of a bottle of vintage burgundy.

Dr. Clegg should tell us, by the way, in what percentage of his 200 cases he used this method. Personally I have employed it in about 10%. The use of pentothal, like that of any other method, when we are dealing with subjectively toned material, and rapport is present, depends on the person using it as well as on the type of case. Dr. Clegg may get results with his methods which others may only get with prolonged analysis and others by the cruder mental enema of pentothal. There is also the question of permanence of effect.

So let us neither condemn nor appraise too highly a method which is still experimental as well as, apparently, therapeutic. —I am, etc.,

CHARLES BURNS,
Psychiatrist, E.M.S.

"Silent" Sinusitis

SIR,—Dr. C. Newlyn Smith's inquiry (Aug. 22, p. 229) about the kind of contraction of the field in sinusitis will be best answered by reference to the field charts. Those for the second case have been reproduced in *Proc. roy Soc. Med.*, 1931, **24,** 891, and those for another case in *Trans. ophth. Soc.*, 1933, **53.** If Dr. Newlyn Smith has not easy access to these papers I shall be pleased to send him reprints.

Your other correspondent, Dr. J. J. Craig (p. 230), has answered the question, "Would not radiographs have shown it?" I have no desire to theorize; my one wish is to show that measures designed to drain the sinuses—one with operation, the other without—did promptly relieve the 2 patients, in both of whom every other measure had failed, in one for 7 years and in the other after a lifetime of headache.

I am glad to have Dr. Craig's confirmation of the existence of "silent" sinusitis. It is on the general practitioner that the continual care of these patients falls when specialists can give no help, so that I am glad he has found Proetz useful, though I have not had success with that method. To take the fields of vision by the perimeter, using a 1-mm. white object, takes 5 minutes. I am afraid I must differ from Dr. Craig, as this seems to me much more widely applicable than *x*-ray examination after the introduction of lipiodol, though this is also excellent for diagnosis. Very few chronic cases, in my experience, are without some involvement of the posterior sinuses, which is shown by the fields.—I am, etc.,

London, W.1. ROSA FORD.

Single-handed Anaesthesia and Operation

SIR,—Recent correspondence in the *Journal*, concluding with Dr. A. H. Bartley's letter (Aug. 8, p. 170), has brought up a question which has occupied my mind ever since I started in general practice—i.e., should an anaesthetic and operation ever be attempted single-handed except in a gravely urgent emergency? My own opinion is that they should not, as if proper attention is given to the patient under the anaesthetic it is almost impossible to operate conscientiously, while the dangers of not watching the administration of the anaesthetic have been sufficiently emphasized in recent letters.

My own practice, however, differs in fact from my conviction; in midwifery particularly I often embark on the double responsibility. I have had no anaesthetic difficulties, as I make a point of inducing the patient to the depth required before handing over to the nurse, and then only permitting her to use a Mennell's inhaler, which will usually maintain the required depth with, I believe, complete safety. In an emergency I let the nurse induce with the Mennell's inhaler, which is usually sufficient to get a good second-stage anaesthesia. I have not been so fortunate with the operative procedure in these cases, however, and have, on one occasion at least, delivered an infant in the posterior position through inefficient anaesthesia.

My reason for attempting both responsibilities is simply that everybody does it, and I feel I hardly like to trouble my neighbours, except in cases which I know may prove difficult, when they do not trouble me; but I am sure the principle is wrong. Occasionally, for a very minor and quick procedure, I feel quite justified in giving a small dose of an intravenous barbiturate, for there the nurse can concentrate her whole attention on watching the patient's breathing. In variance to the usual opinion as to the safety of administration, I see no difference between a drug that has been injected and one that has been inhaled. While it is true that the inhaled drug

is excreted with normal or, if necessary, artificial respiration, surely the injected drug is as rapidly destroyed in the liver, providing the blood is oxygenated—again by normal or artificial respiration. There is not, so far as I know, any danger with ordinary doses of any castastrophic damage such as may be produced by chloroform, which is the only drug likely to be used by a nurse-anaesthetist.—I am, etc.,

Birmingham. W. BRIAN GOUGH.

Anaesthetic Convulsions

SIR,—A recent correspondent maintained that no mention of convulsions under anaesthesia is to be found in the earlier literature. Hewitt, on *Anaesthesia* (p. 367), says: "It is by no means uncommon for clonic muscular phenomena to arise during the second and third stages of chloroformization. . . . In some of the recorded cases of this kind, patients are reported to have had a fit or to have been attacked by epileptiform convulsions." In a footnote is added: "See Lord Lister's account of a chloroform fatality (*System of Surgery*, 3rd edition III, 615). In this case respiration ceased during an epileptiform spasm." "A similar condition has been observed under ether (*British Medical Journal*, 2nd May, 1885, page 887)."

I do not know how far back the records of the *B.M.J.* go, but it would be of great interest and, I think, of real value if this case could be looked up and republished.—I am, etc.,

JOHN ELAM.

*** The article referred to by Dr. Elam was written by Dr. Ernest H. Jacob, and was entitled "Deaths from Anaesthetics in 1884." They were briefly tabulated under the following headings: "Deaths under chloroform"; "Deaths from mixtures of chloroform and ether"; "Deaths from methylene"; "Deaths from ether." The one case in which there were presumably convulsions was that of a boy (age not given) operated on for "bronchocele." The following observation was made in the column headed "Remarks"; "Death by spasm expiratory muscles epileptic. (?) Lungs could not be inflated." At the end of his short article the author writes: "In reviewing the cases of deaths from chloroform and ether respectively, one is struck by the difference in the character of the operation; the deaths from chloroform being mostly in comparatively healthy persons, during slight operations. The deaths from ether occurred, without exception, in persons severely debilitated by disease."—ED., *B.M.J.*

Trilene and Cardiac Arrhythmia

SIR,—The letter of Drs. K. G. Lloyd-Williams and D. Hewspear (Aug. 8, p. 170) giving details of cardiac disturbances in a case of non-toxic goitre under trilene is most interesting. The writers incline to the view that the trilene was responsible for the trouble.

I have been using trichlorethylene for the past two years, during which time I have anaesthetized with this agent a considerable number of cases of thyroid, both toxic and non-toxic, without any untoward symptoms. I have not used chloral as a pre-operative sedative in these cases, and I note that the writers do not say whether they have used the chloral–trilene sequence before. The only trouble I have ever experienced with trilene is a very occasional tachypnoea of such degree that efficient tidal exchange is lacking and necessitates a change-over to some other agent.

Dr. Langton Hewer has not only pointed out the chemical resemblance between chloroform and trichlorethylene, each with three chlorine atoms, but he has also drawn attention to the dangers of primary cardiac failure following basal narcosis with trichlorethanol, which has three chlorine atoms in its structure as well. In view of the fact that chloral also contains three chlorine atoms, is it possible that the chloral–trilene combination had some deleterious effect on the heart which is not seen when these drugs are used separately?

A further point is whether the adrenaline, injected just before starting the trilene, had any bearing on the above. The effect of adrenaline upon chloroform narcosis is, of course, only too well known.—I am, etc.,

St. Leonards-on-Sea. E. NEWTON PRICE.

A Light Trailer Ambulance

SIR,—I was interested to read Lieut.-Col. J. L. Moir's account of the "Duerr-Moir" ambulance (Aug. 8, p. 160). I should like to congratulate him on having exercised his mind to this extent in a matter of great importance.

For a considerable time we have recognized in Zone 3, Lancashire and Border District, that the standard type of stretcher, requiring as it does 2 to 4 men to transport 1 casualty a short distance, has a very limited function in open country, and that a light wheeled stretcher which can carry 2 casualties and be operated by 2 men is essential. We are developing here a purely hand-propelled "stretcher carrier" which is lighter and simpler than the trailer ambulance described; and—particularly as Lieut.-Col. Moir invites comment or criticism—I should like to state the main facts which I consider influence me in favour of this and against the trailer type.

1. The trailer ambulance can only operate on roads—that is, from casualty collecting points to the "rear area." On account of the additional weight and relatively complicated structure it would not be very easy to man-handle fully loaded over, say, 1 or 2 miles of rough country if necessary. One cannot presume that defended localities would always be within "hand carry" distance of C.C.P.s that are approachable by road, and a motor car is, of course, necessary in every case for the trailer ambulance. The trailer ambulance, therefore, chiefly caters for the relief of motor ambulances, and is concerned to a lesser extent with the difficult problem of transporting wounded from points of action to collecting points or beyond. Ambulance relief might largely be acquired by fitting simple box bodies to light car chassis. Where possible these could carry 4 or 6 cases. On the other hand, a light propelled "stretcher carrier" can operate where the trailer conveniently cannot, and could evacuate direct from defended localities "backwards" for a distance of a few miles if necessary, thereby relieving the motor ambulance to a certain extent as well as clearing the action area.

2. Increased shock to the casualties is a factor which must be considered during transport by trailer. It is impossible to avoid much bumping and side swinging when carrying a casualty in a light trailer of this type. Moreover, the protection from cold given by the light canvas sides and top is hardly offset by the hot-water bottles which would in any case be impossible to maintain.

3. Risk to the patients due to mechanical faults or breakdown—such as a broken towing attachment, tyre puncture, etc.—cannot be ruled out. Even with an attendant on the pillion seat (3 men on a light trailer would make it very unstable) the occupants of a trailer ambulance do not enjoy that degree of control which should be given to helpless men.

I mention these 3 points in fair criticism of an apparatus to which I have given some thought myself and which under favourable local conditions I consider might be of limited value. With restricted means of production, however, I believe that a light wheeled stretcher-carrier would be of greater potential value in so far as it would provide an answer to more of our problems. With this apparatus a motor car is not necessary; any 2 men can control it over a long distance; direct control of the casualties is simpler; and approach to and collection from the area of the casualties is possible. On the other hand, hilly country or roads form an obstacle which a motor-drawn ambulance could cope with better. In my opinion, however, the casualties in these should be placed inside a wooden or steel body and between the front and rear wheels.—I am, etc.,

K. VERNON BAILEY.

Vaginismus

SIR,—The interesting article by Dr. Joan Malleson (Aug. 22, p. 213) makes no mention of the rare but by no means mythical condition of deep or superior vaginismus which gives rise to penis captivus, the historical and bibliographical aspects of which I discussed some years ago (*Janus*, 1935, **39**, 196; and *Epitome*, April 11, 1936, para. 301). This "curiosity of medicine," which from ignorance or prudery on the part of the authors finds no mention in Gould and Pyle's classical work, is like the common form of vaginismus due to psychogenic spasmodic contraction of the levator ani. A typical but entirely fictitious case was reported by Osler in a mischievous mood writing under the pseudonym of "Egerton Y. Davis"

(Harvey Cushing: *Life of Sir William Osler*, 1925, **1**, 240). Although the state of the imprisoned couple has appeared so supremely ridiculous as even to raise a doubt as to its actual occurrence, the acute mental and physical suffering of the unfortunate victims during their conjunction and their feeling of shame after release has in one case at least (reported by Piltz, *Thèse de Paris*, 1931, No. 236) led to double suicide. In the few cases on record in which treatment is mentioned, chloroform has been given to the female partner to relax the vaginal spasm.—I am, etc.,

Kensington, W.8. J. D. ROLLESTON.

Self-medication and the Chemist's Shop

SIR,—The letter of Dr. Loewenthal was very much to the point, and, like him, I am surprised that such an important matter has received so little apparent consideration from doctors generally. The fact is, however, that despite the "remarkable strides" and "wonderful discoveries" medicine is still a long way from being an exact science, and if people can obtain a "cure" in the chemist's shop they will continue to patronize it, as being a quicker and more economical method than visiting the doctor's surgery. One has only to look round any sick-room and see the litter of nostrums of all kinds to realize that for most of our patients the chemist is regarded as the first line of defence in connexion with illness. When taxed with this question the chemist's invariable answer is that if he was dependent on doctors' prescriptions for his livelihood he would have a very lean time indeed, and that force of circumstances has made him more of a shopkeeper than a pharmacist.

With regard to "counter prescribing," it is interesting to note that in most of these cases the "patient" comes along with a ready-made diagnosis, having previously consulted *Every Man His Own Doctor*, so that all the chemist has to do is to take out the appropriate remedy from its particular pigeon-hole and hand it over the counter. The transaction is rapid and easy; in many cases only a matter of seconds. Dr. Loewenthal appears to think that chemists might feel inclined to cut out this part of their business if the doctors gave an undertaking to stop dispensing; but would they? In most cases it is improbable that the increased revenue from prescriptions would compensate them for the loss in selling both their own and proprietary preparations, more especially in view of the enormous demand for the latter by a large section of the public. Moreover, if the customer cannot get his favourite remedy from the chemist he can easily get it elsewhere, as most of the small general shops stock patent medicines now. In addition the vested interests behind the proprietary drug trade are powerful, and as they are extensive advertisers in the lay press we could not expect much support from that quarter. There is a further complication in the fact that so many doctors' dispensers also fill the role of book-keeper and receptionist. It would be interesting to know what others think about the matter.—I am, etc.,

Leicester. E. J. O'SULLIVAN.

Tietze's Disease

SIR,—Having read with interest the article on Tietze's disease by Drs. A. Morton Gill, R. Arden Jones, and L. Pollak (Aug. 8, p. 155) we thought the following case might prove of interest.

On July 27, 1942, a rating aged 19 reported at the sick bay on board H.M.S. —— complaining of pain and a lump in the chest. On examination a prominent swelling was seen just below and to the right of the xiphisternum. The swelling was "springy" and occupied the area of the seventh right rib cartilage, oval in shape, with its long axis, about one and a half inches, parallel with the cartilage with which it seemed to be continuous. It was not tender, but he complained of some pain on strenuous exercise. It was difficult to diagnose so we had an *x*-ray examination made. The report gave no structural abnormality. Potassium iodide as a form of treatment unfortunately produced acute iodism. In view of this and the lack of symptoms he was reassured and sent back to work. On examination 3 weeks later the swelling had diminished considerably but was still present. There were no symptoms.—We are, etc.,

K. C. BALFOUR.
W. F. VIRET.

Obituary

ARTHUR VERNON DAVIES, O.B.E., M.B., Ch.B.

We regret to announce the death at the age of 70 of Dr. Arthur Vernon Davies, O.B.E., Unionist Member of Parliament for the Rayton Division of Lancashire from 1924-31. Dr. Davies was a graduate of Victoria University, Manchester, where he qualified M.B., Ch.B. in 1895. He was subsequently house-surgeon at both the Royal Infirmary and the Northern Hospital for Women and Children, Manchester. During his 23 years in general practice in Shaw, Lancashire, Dr. Davies held many public appointments, including that of medical officer of health for Crompton. His lively interest in the health and welfare of his own town never lessened, and after his election to Parliament in 1924 he became one of the most regular attendants at the House of Commons. Any medical matters before Parliament were assured of his keenest interest. He was always a fearless critic of any measure with which he did not agree, and an equally staunch supporter of those of which he approved, especially those which he felt from his own experience would be of the greatest benefit to his constituents, among whom he had worked during his years in general practice. Ill-health compelled him to give up all his public work in 1931. Perhaps Dr. Davies's greatest professional interest was in the St. John Ambulance movement, which he joined soon after going to Shaw. As Assistant Commissioner for No. 4 District he put in a great deal of time during the last war, when he had under his supervision 20 auxiliary hospitals. After he retired to Surrey in 1922 he became for a time Commissioner for No. 8 District. In 1918 he was made a Knight of Grace of the Order of St. John of Jerusalem. Dr. Davies was a member of the British Medical Association from 1898 until his death, and a member of the Association's Parliamentary Subcommittee in 1930-1.

He leaves a widow, one son, and one daughter.

We regret to announce the death of Dr. MIDDLETON CONNON of Aberdeen, a well-known radiologist and an authority on the medical aspects of workmen's compensation. Dr. Connon, who was 67, qualified in 1896, and 2 years later took the D.P.H. After a period as resident surgeon and physician at the Royal Infirmary, Aberdeen, and the Royal Aberdeen Hospital for Sick Children, he practised with the late Dr. Key at Montrose, and then, in 1904, the year in which he took his M.D., he was appointed radiologist to the Royal Infirmary and lecturer in radiology to his old university. His association with the *x*-ray department of the Royal Infirmary continued for many years, and at the time of his death he was consulting radiologist to that institution. He served with the Forces in the last war, and afterwards was appointed examining officer for the Ministry of Pensions. He was also an examiner for the General Nursing Council in Scotland. Dr. Connon joined the B.M.A. at the time of his qualification, and for 11 years was honorary secretary of the Aberdeen Division, his period of office including the visit of the Association to Aberdeen for its Annual Meeting in 1939. Not a little of the success of that last pre-war meeting was due to his labours. At the same meeting he was vice-president of the Section of Radiology. He did much good work for the Association in the "Far North."

A well-known Edinburgh practitioner died on July 30 in Dr. JOHN MAY DARLING, D.S.O., consulting surgeon to the Edinburgh Eye, Ear, and Throat Infirmary. Dr. Darling, who was one of three brothers, all of whom were doctors, was the son of a Leith schoolmaster, and was born in 1878. He was educated at the Royal High School, from which he proceeded to the University of Edinburgh, where he qualified in 1903. He also studied for a time at the University of Marburg in Prussia. In 1906 he became a Fellow of the Royal College of Surgeons of Edinburgh. While house-surgeon at the Edinburgh Royal Infirmary he began to devote special attention to the study of the ear, nose, and throat, and after serving as clinical assistant in the otolaryngological department, he was appointed surgeon to the Edinburgh Eye, Ear, and Throat Infirmary, with which he remained associated for the rest of his life. During the last war he saw service in France, Belgium, Egypt, and Salonika, and retired with the rank of major R.A.M.C. He was medical officer to the Edinburgh Provincial Committee for the Training of Teachers at Moray House. He was a member of

the Scottish Otological and Laryngological Society and the author of several papers in the *Edinburgh Medical Journal* on otological subjects. Dr. Darling had been a member of the British Medical Association for just over 30 years. He was a widower and is survived by two sons, one of whom is a medical man now serving in the R.A.M.C.

We regret to announce the death at Devizes on Aug. 4 after a long illness of Mr. JAMES THOMPSON at the early age of 47. He was born at Penrith, Cumberland, in 1895 and received his early education there at Queen Elizabeth Grammar School. From Penrith he went to Edinburgh University, where he qualified M.B., Ch.B. in October, 1917. He served in France for the remainder of the last war, first as lieutenant and then as captain R.A.M.C. He was regimental medical officer to several battalions of the Bedfordshire Regiment, and it was while he was attached to them that he was awarded the M.C. After demobilization he took an assistantship at Taunton, where, in 1921, he married Miss Margaret Catherine Seaton. He then went back to Edinburgh University and in 1922 obtained his surgical fellowship. In the same year he acquired a practice in Devizes, where he lived until his death. He was the senior honorary surgeon to the District Hospital, Devizes, and consulting surgeon to the Wilts County Mental Hospital, Devizes; at one time he was consulting surgeon to the Wilts County Constabulary. He was also a borough magistrate. Mr. Thompson was a surgeon of outstanding ability and for some time had consulting rooms in Harley Street. Just before his illness began in January, 1942, he had been carrying out cancer research work along novel lines. He will be greatly missed by both professional and personal friends.

The Services

The Distinguished Service Cross has been awarded to Temp. Surg. Lieut. D. R. S. Howell, R.N.V.R., for bravery and enterprise in the successful operations which led to the surrender of the important base of Diego Suarez, and to Temp. Surg. Lieuts. J. W. Boland and R. Ransome-Wallis, R.N.V.R., for distinguished services in convoys to and from Murmansk, through the dangers of ice and heavy seas and in the face of relentless attacks by enemy U-boats, aircraft, and surface forces. Surg. Cmdr. W. F. Lascelles, Prob. Temp. Surg. Lieut. B. W. Davy, and Temp. Surg. Lieuts. J. B. Houghton, I. Miskelly, and J. W. J. Knowles, R.N.V.R., have been mentioned in dispatches for distinguished services in the Murmansk convoys.

CASUALTIES IN THE MEDICAL SERVICES

Col. WILLIAM WALKER, M.C., is included as "Died" in an Army Council Casualty List published on Aug. 21. He was born in 1890 and graduated M.B., Ch.B. at the University of Aberdeen in 1914, proceeding M.D. in 1932. In the war of 1914-18 he saw service in France and gained the Military Cross in 1918 for conduct described in the *London Gazette* as follows: "He proceeded to a village under heavy fire and succeeded in attending and evacuating several wounded. He only desisted when the enemy entered the village. Later, he succeeded in releasing a party of stretcher-bearers who had been cut off. Throughout the operations he has shown the utmost energy and courage." After the war he took a permanent commission in the R.A.M.C. and served in Palestine and India, in the Poona and Deccan Districts, and in 1931-2 he became deputy assistant director of pathology of the Northern Command, York. He contributed an article entitled "An Investigation into Cases of Cerebrospinal Fever in the Northern Command of the Army during 1931" to the *Journal of the Royal Army Medical Corps* in 1932-3, concluding with a plea for early diagnosis of the disease. From 1933 to 1939 he resided at North Shields, where he became assistant school medical officer to the County Borough of Tynemouth and honorary pathologist to Tynemouth Victoria Infirmary. On the outbreak of the present war he was recalled for service with the rank of lieut.-col., being promoted full col. soon afterwards. He had been a member of the B.M.A. for 24 years.

Acting Group Capt. GERARD JOSEPH HANLY, R.A.F., died in Aug. on active service in the Middle East. A native of Elphin, Co. Roscommon, he was educated at the University Colleges of Galway and Dublin, graduating M.B., B.Ch., B.A.O. of the National University of Ireland in 1923, also taking the F.R.C.S.Ed. in 1931. He entered the R.A.F. as flying officer in 1924, became flight lieut. in 1926, squadron leader in 1934, wing cmdr. in 1938, and was recently granted the acting rank of group capt. Before the war he saw service in India, Iraq, at Aden, and in Egypt. He leaves a widow. He had been a member of the B.M.A. since 1926.

Flight Lieut. IAN GORDON LENNOX, R.A.F.V.R., died in Westminster Hospital on Aug. 8. He was born on Aug. 16, 1914, and was educated at the University of Glasgow, where he graduated M.B., Ch.B. in 1938. He held the post of resident medical officer at Paisley Infectious Diseases Hospital from May, 1940, until the following Sept., when he entered the R.A.F.V.R. as temp. flying officer, being promoted war subs. flight lieut. a year later. He was a brother of Mr. D. K. Lennox, F.R.C.S.Ed., of Blackpool.

Lieut. DONALD SEYMOUR SCOTT, R.A.M.C., is now presumed to have died of wounds received in May, 1940, while attending casualties at Cassel. He was born on June 27, 1911, the elder son of Mr. and Mrs. A. E. Scott of Maidstone, and was educated at Felsted School, at Emmanuel College, Cambridge, and at the London Hospital. He qualified M.R.C.S., L.R.C.P. in 1935 and took the degrees of M.B., B.Chir. two years later. He followed his 2nd Class Tripos (pathology) with a number of hospital appointments and obtained the M.R.C.P. in 1939. He entered the R.A.M.C. as temp. lieut. in Jan., 1940. He leaves a widow.

Prisoners of War.—Temp. Major E. G. Collins, R.A.M.C., Capt. A. W. V. Eley, R.A.M.C., Capt. H. Houghton, R.A.M.C., Major W. R. Hunter, R.A.M.C., Capt. J. A. Learner, R.A.M.C., Temp. Major J. R. A. Martin, R.A.M.C., War Subs. Capt. W. Milburn, R.A.M.C., War Subs. Capt. G. F. R. Parker, R.A.M.C., Capt. W. L. Petter, R.A.M.C., War Subs. Capt. T. St. J. H. Silvester, R.A.M.C.

Wounded.—Capt. L. G. Hannah, R.A.M.C., Capt. A. B. Waters, R.A.M.C.

DEATHS IN THE SERVICES

Col. THOMAS ARTHUR GRANGER, C.M.G., I.M.S. (ret.), died at Exmouth on Aug. 4, aged 70. He was born on Aug. 12, 1871, and was educated at the University of Edinburgh, where he graduated M.B., C.M. in 1892. Entering the I.M.S. as surg. lieut. in 1894, he became lieut.-col. after twenty years' service, col. in March, 1922, and retired four months later. He served in the Frontier expedition in Mekram in 1898 and in the North-West Frontier campaign of 1898-9, against the Chamkannis (medal and clasp). From 1911 to 1914 he was A.D.M.S., Army Headquarters, India, and from 1914 to 1919 was Honorary Surgeon to the Viceroy. He served in the war of 1914-18, and in 1915-16 he was A.D.M.S. at the headquarters of the Egyptian Expeditionary Force and the Mediterranean Expeditionary Force and from 1916 to 1918 was A.D.M.S., 4th Cavalry Division, in France. He was twice mentioned in dispatches and was appointed C.M.G. in 1918. He was the author of a small book on *The Art of Sailing*, 1933. He had been a member of the B.M.A. for 25 years.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* a rise in the notifications of whooping-cough, diphtheria, and acute pneumonia—172, 85, and 27, respectively, in excess of the previous recorded number—interrupted the general trend of a falling incidence of infectious diseases during the past few weeks. For the sixth consecutive week there was a sharp fall in the notifications of measles, the total being 636 fewer than in the preceding week. There were 31 fewer cases of dysentery, and the lowest weekly total for 12 months was recorded.

The rise in diphtheria notifications was due mainly to two counties—Lancashire and Durham, with increases of 34 and 35 cases. In the former county the chief centre of infection was Liverpool C.B. 42 cases, and in the latter it was Easington R.D. 23.

A small rise in the incidence of whooping-cough was fairly general throughout the country. In Yorks West Riding there was a total of 184 cases, compared with 127 in the preceding week.

In *Scotland* the incidence of diphtheria has increased for the fifth consecutive week. The chief centres of infection are Glasgow, Dundee, and Lanark, where 57, 25, and 13 cases were notified during the week.

Typhus

In *Eire* 5 cases of typhus were notified in the rural district of Kanturk, Co. Cork. This is the third outbreak during this year, the two previous ones being in Westport U.D., Co. Mayo, 5 cases, and Shillelagh R.D., Co. Wicklow, 3 cases.

Returns for the Week Ending August 22

The notifications of infectious diseases during the week in England and Wales included the following: scarlet fever 1,332, whooping-cough 1,235, diphtheria 629, measles 4,089, acute pneumonia 346, cerebrospinal fever 68, acute poliomyelitis 19, dysentery 59, paratyphoid 8, typhoid 15.

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INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended August 15.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1942 (a)	(b)	(c)	(d)	(e)	1941 (Corresponding Week) (a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	70	4	21	1	3	144	18	38	5	8
Deaths		3	—		—			1		
Diphtheria	665	32	184	33	15	667	46	199	15	31
Deaths	15	1	3	1	1	18	1	2	2	3
Dysentery	51	10	44		—	40	10	45		—
Deaths		1		—	—		1		—	—
Encephalitis lethargica, acute	2	—	—		—	3	—	4	2	—
Deaths		—					—			
Enteric (typhoid and paratyphoid) fever						38	3	6	6	1
Deaths						3	2	—	—	—
Erysipelas	—	—	40	6	3	—	—	37	5	1
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				91						
Deaths	34	2	14	11	6	51	3	8	23	1
Measles	4,983	475	126	24	31	2,276	84	26	102	1
Deaths	4	—	1	—	—	2	—	—	1	
Ophthalmia neonatorum	76	2	14	—	—	72	3	14	2	1
Deaths										
Paratyphoid A and B	13	1	—	—	—	150	2	13	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal*	440	14	7	1	—	408	21	6	1	—
Deaths (from influenza)	11	1	1	—	—	2	12	2	1	3
Pneumonia, primary			138	8				120	9	
Deaths				11	5				2	—
Polio-encephalitis, acute	3	—				2	2			
Deaths		—					—			
Poliomyelitis, acute	15	1	1	2	—	30	—		5	1
Deaths		—	—	—			—	—	—	
Puerperal fever	—	1	8	1	1	1	1	10	2	—
Deaths		—					—			
Puerperal pyrexia	175	6	11		4	126	112	16	2	2
Deaths										
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,332	76	253	46	24	804	27	118	32	20
Deaths	—	—	1	—	—	2	—	—	—	
Small-pox	—	—	1		—	—	—	—		—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	15	—	—	20	1	—	—	—	—	—
Deaths			—	1	—			—	—	—
Typhus fever	—	—	—	5	—	—	—	—	—	—
Deaths			—	—	—			—	—	—
Whooping-cough	1,125	97	17	51	18	3,138	206	84	37	28
Deaths	4	1	—	2	—	19	3	5	—	1
Deaths (0–1 year)	287	28	63	31	20	252	22	63	38	17
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	3,664	514	538	166	107	3,420	436	518	182	116
Annual death rate (per 1,000 persons living)			12.1	11.1	†			11.3	12.1	†
Live births	5,939	727	853	435	310	4,392	340	841	290	166
Annual rate per 1,000 persons living			17.6	29.0	†			17.1	19.3	†
Stillbirths	220	18	38			192	14	38		
Rate per 1,000 total births (including stillborn)			43					43		

* Includes primary form for England and Wales, London (administrative county), and North rn Ireland.

† Owing to evacuation schemes and other movements of population, birth and death rates for Northern Ireland are no longer available.

Medical News

The Medical Society of Pernambuco, Brazil, has recently celebrated the centenary of its existence.

The Trustees of the Leverhulme Research Fellowships have approved the award of a research grant to Dr. Frank Ellis, medical director of the Sheffield Radium Centre, for an investigation into the systematic effects of *x* and gamma radiation, their control and prevention. Application forms and information about Fellowships and grants may be obtained from the Secretary, Leverhulme Research Fellowships, Unilever House, Blackfriars, E.C.4.

The Board of Registration of Medical Auxiliaries has just issued a Register of Speech Therapists. Medical practitioners and hospitals and educational authorities may obtain free copies of the Register from the Secretary of the Board of Registration, B.M.A. House, Tavistock Square, London, W.C.1.

We have received from the Public Dental Service Association (15, Taviton Street, Gordon Square, W.C.1) a copy of the memorandum which the association has placed before the Interdepartmental Committee on Social Insurance and Allied Services (the Beveridge Committee). It presents the case for a national dental service as part of the health and medical services of the community, under the direction of a dental controlling authority. Preventive treatment, especially in pre-adult life, would be the chief aim of the service, and this be provided, for the present, through the existing private practitioner system.

The British Federation of Social Workers (5 Victoria Street, S.W.1) has issued in pamphlet form a report of the conference on social changes due to the war and their significance, held in London last February. Copies may be obtained from the honorary secretary, price 2s.

The Prime Minister of Australia announced on August 27 that he had co-opted Sir Earle Page to the Commonwealth War Council and that Sir Earle would attend the meetings of the War Cabinet, so that the knowledge and experience he gained as representative of Australia in the United Kingdom War Cabinet and on the Pacific War Council in London would be available to the Commonwealth Government.

The Association of Scientific Workers is organizing an exhibition to be held in November at the premises of the Royal Photographic Society, to illustrate the applications of photography to medicine, science, and industry with a view to making such information more widely available and better known to the public. Those who may be able to provide exhibits are asked to write to the Hon. Secretary, Photographic Exhibition Committee, Association of Scientific Workers, 73, High Holborn, W.C.1, for further details.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1.

ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

Authors desiring REPRINTS should communicate with the Secretary of the Journal Board, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

ADVERTISEMENTS should be addressed to the Advertisement Manager (hours 9 a.m. to 5 p.m.). Orders for copies of the *Journal* and subscriptions should be sent to the Secretary.

TELEPHONE NO.—B.M.A. and *B.M.J.*: EUSTON 2111.

TELEGRAPHIC ADDRESSES.—EDITOR, *Aitiology Westcent, London;* SECRETARY, *Medisecra Westcent, London.*

B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

QUERIES AND ANSWERS

Ectodermal Dysplasia

Dr. W. A. H. BELL (Highgate) writes: Recently a case of old-standing almost complete alopecia has come under my care—a man of 40. He is the nervous, worrying type, and the skin of the body is dry and the finger- and toe-nails brittle and distorted. It would appear that there is some ectodermal disturbance affecting both hair and nails. At different times he has had all sorts of local applications to the scalp—ionization, etc.—without success. I should be interested to hear if any doctor has ever tried glandular therapy for these cases, and, if so, with what result.

OCT 8 1942

Income Tax

Locumtenent and Assistant M.O.H.

"Z" did not work between January, 1941, and April 5, 1941; he acted as locumtenent for two weeks between the latter date and June 16, when he began work as an assistant M.O.H. on a salary plus weekly bonus, receiving a car allowance of 4d. per mile. He bought a Ford 8 on April 23, and sold it on June 20 at a loss of £44, buying a Standard 12 for £130.

*** "Z" is assessable for the current financial year on the basis of his earnings of the actual year. As the liability falls under Schedule E he can claim only such expenses as are incurred "wholly, exclusively, and necessarily in the performance of the duties of the office." The word "necessarily" is important—e.g., if "Z" uses a larger car than is necessary he cannot legally bring into the computation the whole of the resulting expenses. In point of fact it is the practice of the authorities to decline to make deductions from salary for any motor expenses when a mileage allowance is received, on the ground that taking one year with another the allowance may be presumed to cover the necessary costs. If, however, it can be shown that the allowance is in fact inadequate there is a legal claim to a deduction for such portion of the "necessary" expenses as are not covered by the mileage allowance. In making such a claim the cost of replacement basis for renewal of a car would probably be refused on the ground that it is not an annual expense, but the depreciation allowance—at, say, 24% of the written-down cost of the car—would be allowed in lieu of cost of replacement.

Cash Basis

E. desires to change the basis of his accounts for income tax as from March 31, 1941, treating his gross earnings as the amount of cash received in the year instead of the amount of the bookings less an allowance for bad and doubtful debts. The Panel cheque received on April 1, 1941, was £44 more than the amount received on April 1, 1942, and it is suggested that as tax has been paid upon the former amount the latter should be included in the cash basis account for 1941-2 instead.

*** In the first place we doubt whether the Revenue authorities will acquiesce in the proposed change in basis. The "cash receipt" basis has no legal validity and is accepted only when the gross earnings of a practice are reasonably stable and great difficulty is experienced in approving any other basis. If, however, the authorities do agree to the change it is fairly certain that no exceptions would be allowed to the bringing in of *all* cash received in the selected year. The argument that tax has already been paid on an item of income earned before but received after March 31, 1941, is of general application, and E would be open to the reply that while the Panel cheque would work against him in the event of a change of basis, other items might work against the Revenue.

LETTERS, NOTES, ETC.

Auscultation in Non-penetrating Abdominal Injuries

Dr. H. P. TAIT (Edinburgh) writes: I was extremely interested in Mr. Th. Schrire's paper on non-penetrating injuries of the abdomen (Aug. 1, p. 127), and noted in particular that he made no mention of the use of auscultation of the abdomen in such cases. The value of this form of diagnostic aid is emphasized in at least one standard textbook of surgery (Romanis and Mitchiner, *Science and Practice of Surgery*, 3rd edition, 2, 508). In view of the importance of early diagnosis of such difficult cases, I would be glad to hear of other opinions on the value of auscultation in such cases as may be met with in A.R.P. work.

Treatment of Plantar Warts by Elastoplast

Dr. H. HUGHES JONES (Nevin) writes: I was interested to read Dr. W. Hirst Bateman's medical memorandum on the treatment of plantar warts by elastoplast dressings (Aug. 8, p. 158). I have used a similar dressing for some years with gratifying results. My method is as follows. A first dressing of elastoplast is put on, with a perforation therein for the wart to protrude. This is covered by a second layer of elastoplast and left intact for about 21 days. By this means pressure from footwear is minimized, and the relief from pain experienced by the patient is most welcome. The dressing is generally renewed in 21 days, and the wart disappears in from 6 to 8 weeks.

Plague

Dr. S. A. MONTGOMERY (Bournemouth), in the course of a letter, writes: In your Nova et Vetera column on July 25 the short article written by Lieut.-Gen. Sir W. P. MacArthur must have been read by many like myself with much interest and instruction. Plague, everyone knows, is endemic in India, and with that country so near our shores by air the practitioner might any day be confronted with a case that had passed through the airport medical officer's hands before the disease had fully developed or the incubation period was completed. The incubation period of plague is comparatively short, and so the disease has not time to incubate fully on the journey by air. In a paper read at a health congress at Belfast in 1932 Dr. W. M. Frazer, port medical officer, Liverpool, stated that an outbreak of human plague occurred as recently as 1910-11, when four cases were reported, contracted from hares infected by rats in East Suffolk. The outbreak was very restricted, and the number of fleas in East Suffolk that winter scanty—averaging under one flea per rat—and the *Xenopsylla cheopis* was absent, so that conditions for rapid infection of human beings were not present.

Action of the Heart under Anaesthesia

Dr. P. GOLDSCHEIDER (Enfield) writes: In your leading article (July 18, p. 73) you say that Dr. John Elam made a useful suggestion that "the Association of Anaesthetists might carry out an investigation into the relative safety of the various anaesthetics now used in general surgery and so lead to an assessment of their indications and contraindications." May I remark that at least part of the toxic influence of the various anaesthetics—namely, the influence on the heart—can be investigated by a strictly objective method by taking electrocardiograms of patients while under an anaesthetic. Different authors have made such tracings. I have made quite a number with ethyl chloride, ether, pentothal, and gas and oxygen anaesthesia. The results show that all the various anaesthetics influence the heart by producing arrhythmias, extrasystoles, changes in the appearance of the T-wave, depression of the S-T stretch, etc. This influence is usually quite transient, but I was induced to make this investigation years ago by finding a pathological electrocardiogram in a formerly quite healthy young man 3 months after appendicectomy. Investigations on a large scale would certainly make a valuable contribution in the assessment of the indications and contraindications of the various anaesthetics.

Nomenclature of Night-blindness

Dr. FRANCIS E. PRESTON (London, E.11) writes: I thank Dr. J. Price Williams (Aug. 1, p. 148) for his healthy constructive criticism of that portion of my article dealing with this subject. The word "nyctamaurosis" was carefully considered by me, but was turned down for the following reason. Amaurosis is an established word with a precise meaning. Neame and Williamson-Noble, in the glossary contained in the 1942 edition of their *Handbook of Ophthalmology*, define it as a serious defect of vision without any visible disease of the eye. "Nyctamaurosis" can only indicate those defects of night vision where there are no external or ophthalmoscopic signs of disease. How, therefore, are we going to express the state when there are signs of disease? "Nyctamauroma," being a new word, can cover both conditions.

MEDICINE 100 YEARS AGO

Extract from a leading article in the *Provincial Medical Journal*, September 3, 1842:

"It is thought by some of the advocates for a reform of the abuses which disgrace the whole of our medical polity, that a revision of the system of education should form a part of any legislative measure which may be brought forwards to receive the sanction of Parliament. . . . The first object of medical education is to prepare such a number of well-qualified practitioners for the public service as the wants of the community require. Medical practitioners well grounded in the principles of the profession, and capable of treating, as they arise, cases of disease, external or internal, are what are wanted for the care of the public health. To be an accomplished literary scholar, or an acute mathematician; to be well acquainted with botany or zoology, or even to be thoroughly instructed in chemistry, anatomy, and physiology; are of no avail if the practical application of these preliminary studies to the cultivator of medicine or surgery be wanting. Whatever importance, therefore, may attach to certain of these branches of knowledge, and we are far from underrating their value, they can be considered only as preparatory to the main object of qualifying the candidate for the due performance of his medical duties. . . . But, at the same time that every provision should be made for adequate medical instruction, we would not be understood to advocate the drawing of the reins of academical discipline so tight as to place the intelligent student in trammels, which, while they compel his attention to certain prescribed studies in a certain prescribed order, often prevent him from giving that free course to his natural talent which would enable him to arrive at the same end with more satisfaction, as well as with less labour to himself, or force on his mental faculties. The cultivators of medicine ought never to forget that some of the most eminent individuals, whose names are preserved in the records of their science, have been self-educated."

*** The *Provincial Medical Journal* subsequently became the *British Medical Journal*.